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Current Notes

Vol. 7 No. 8

October 1987

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EDITORIAL

By Joe Waters

Last month we told you all about *pc-ditto*, the software-based IBM emulator that turns your ST into an IBM PC. This month the big news is the MEGA ST4. The MEGA is not vaporware; it actually exists. In fact, this issue of *Current Notes* is being produced using a MEGA ST4. It will take your editors another month to get enough experience with the MEGA to give you our impressions. But this month, several Atari developers, who purchased the MEGA ST4 before it reached retail outlets, give you their first impressions. Andy Nicola, compiler of the ST Software List, took his MEGA ST4 to the Computer Engineering and Science department at Case Western Reserve University where Jwahar Bamni, a graduate research assistant, helped him dissect it. Andy and Jwahar give us a first look both outside and inside. In addition, Dr. Bruce Noonan, of *ST Writer* fame, gives us a programmer's first hands-on report.

I might also mention that Bruce has just sent us the two newest versions of *ST Writer*, the standard text-based version 1.80 (CN #175) as well as an all new GEM-based version 2.01 (CN #176). Both CN library disks contain the Spanish and German versions along with the English version and, of course, CN's revision of the original Atari documentation. The long-awaited GEM

version IS NOT, however, a complete GEM implementation. It uses GEM to help you access and print your files, but the editing of the document is still text based, that is, you will not have access to your desk accessories while you are editing. Look for a full review of the new *ST Writers* next month.

As a glance at the table of contents indicates, there are lots of other "gems" in this month's issue, including Frank Sommer's ever-popular ST Update, Bob Kelly's look at Atari's financial position, Jeff Greenblatt's MAGIC tricks, part two's of the Tesla Coil, the MS DOS tutorial, and Cyber Studio and much more.

One final thought -- if you enjoy reading all this Atari material, how about helping bring *CN* to other Atari owners like yourself? Do you have an Atari store in your area that does not carry *Current Notes*? You might suggest to your retailer that *CN* would be a good addition to his inventory or drop me a note and I will contact the store and send out some samples. After all, if there are more copies around, you won't have to lend out yours!

Looking forward to seeing many of you at the Atarifest (October 24, 25). Don't miss it!

Current Notes PC Library

The Current Notes PC library contains public domain and shareware products for the IBM PC and PC-compatible market, including the Atari ST running under pc-ditto. These disks are all on 3.5" format. They are formatted for 360K on a Double-Sided disk. You will need a double-sided drive to read these disks even though they only are formatted for 360K. All disks are \$5 each Order from CN Library, 122 N. Johnson Rd., Sterling, VA 22170.

#PC13: VISIBLE-PASCAL. Pascal learning system, language, editor, docs. Allows simultaneous view of output and source code to help learners debug their programs.

#PC12: FREE WORD. Version 1.0. PC word processor with docs, demo, and reference.

#PC11: A.D.A. PROLOG. Version 1.90. Complete Prolog language with docs.

#PC10: ZIP. The Ultimate Utility, (c) 1985, 1986 by Edward Dong. Complete file manipulation utilities including ARC and deARC as well as an ascii terminal with XMODEM transfer.

#PC09: GAMES NO. 1. DRAW POKER V1.0. Simulates the Nevada video draw poker machine, and MS-TREK 1.0, one of the best Star Trek adventure games.

#PC08: TIME SAVER. Calendar and appointment book; and PFM, Personal File Management System

to help you deal with DOS.

#PC07: EASY BASE. This easy to use data base helps new users create and manage medium size data base applications; and HOME BANK BOOK helps you keep track of your funds in a bank-book style system.

#PC06: PC-DBMS. Version 1.2, data base program; FLOW CHART UTILITY, create your own organizational flow charts; and Mortgage Calculator.

#PC05: AS EASY AS. A powerful spreadsheet (1,024 rows by 256 cols) with a large set of menu command features.

#PC04: PC-OUTLINE. V.1.05. An outlining and planning program, allows you to randomly enter info of almost any type and then organize it into a hierarchical structure.

#PC03: QEDIT. The Quick Editor. A fast text editor, uses all available memory, multiple file editing, split screens, only 39K of disk space.

#PC02: PC-STOCK. A general purpose stock trend analysis program developed with ease of use and graphic presentation of data as primary objectives; and CARDEX, create a rotary index card file equivalent of a ROLODEX.

#PC01: PROCMM. V2.3 Excellent shareware terminal emulation program; and MINIHOT, a host BBS system.

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pc-ditto is a software-only utility which taps the power of your Atari ST to imitate an IBM PC XT. No extra hardware is required (an optional 5.25-inch drive may be required for 5.25-inch disks). All your IBM disks will work "out-of-the-box".

pc-ditto features include:

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- o up to 703K usable memory (1040ST)
- o not copy-protected -- installable on hard disk
- o imitates IBM monochrome and IBM color graphics adapters
- o access to hard disk, if hard disk used
- o optionally boots DOS from hard disk
- o parallel and serial ports fully supported
- o supports 3.5-inch 720K format, 360K single-sided format, and 5.25-inch 40-track formats

System requirements:

- o IBM PC-DOS or Compaq MS-DOS version 3.2 or above recommended
- o ATARI COLOR MONITOR (Atari mono monitor support will be released this Fall)
- o optional 5.25-inch drive is required to use 5.25-inch disks
- o 3.5-inch 720K DOS disks require a double-sided drive (Atari SF314 or equivalent)

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ST UPDATE

By Frank Sommers

LATEST NEWS IN THE ST WORLD

HARDWARE

What's Here, What's Coming -- The Mega ST4 is a qualified success. U.S. developers, who have had it for over a month now generally agree that it is a "neat machine". (See reviews of the MEGA ST4 elsewhere in this issue). The "qualified" adjective applies to its high price, the new ROM chips incompatibility with some existing ST software, and the lack of multi-meg software and more importantly peripherals necessary to dress it up as a business machine, big or small (see below).

Atari Canada rolled it all out for a mid-month pitch to get the government to "Buy Atari". First reactions are again that it was highly successful show-and-tell seminar and Atari will move into serious government sales in at least one country. What did they show? The Mega ST4, the Atari hard drive configured to the foot-print of the Mega cpu box, the Atari laser printer, and the Apple Laser Writer as a backup. The enticing package of Atari printer plus Mega without the hard drive was \$5000 Canadian, which equals about \$3300 US. Atari Canada has also received 22 laser printers to sell.

But what's for south of the border? Within a week of your reading this the Mega ST4's will start appearing in stores. Atari is sticking to its policy of "qualifying" Mega dealers, i.e. big floor space, no discounts, and ESF (external sales force), but they are being flexible initially. And the Atari laser? Trouble with synchronizing "the shifter" have been holding it up. As the shipment to Canada indicates, this is solved and 1 December should see them appearing for sale, at a price we estimate will be \$1199. While it has not been set yet, anything higher will mean the Atari laser, which has no internal memory and thus works only with ST's, would be swamped by its competition just as its hard drive was by Supra.

More About Lasers -- There have been at least 10 announcements of laser printers with Post Script (PS), which Atari does not have, in the last month. The least expensive is GeniCom's with a PS clone aboard for \$1995. The others range thru the \$2000-\$3000 level with NEC offering something of a Cadillac configuration at a low-low of \$3800, with everything including 35 fonts in ROM (along with PS, the secret to having a laser that can manipulate font sizes and styles

and not just be an expensive daisy-wheel). QMS is among the group with a new machine that almost cuts the cost of it's earlier PS laser in half, i.e. \$2695. Now is Atari letting all this role over its head, pretending that a printer with no memory, no PS, and only Easy Draw to lay out pages can compete? Atari-wise Moles tell us no! Behind the barricades to glasnost at Atari, a mandatory facade for any computer R&D, Jack purportedly is letting "several flowers bloom". Sig Hartmen is still negotiating with Adobe about PS for the Atari, while at the same time Atari is doing its own work on developing its own DTP program, using Mergenthaler fonts (the ultimate). Simultaneously negotiation have gone on with the publishers of *READY-SET-GO!* to have Version 4.0 be sold with the Atari package. So there are things to come.

Boxes and Such -- The Atari 1200 baud modem is on the shelf for \$99, just as Atari promised in 1986. It does not use the 8-bit handler, has no software for the 8-bit machines and so will only run via the RS-232 port. Avant-Garde Systems of Miami, tired of the difficulties people were having porting IBM software over for use with their PC-ditto emulator is reportedly now offering a hardware bit-copy device that will copy all software, IBM, Commodore, ST, what-have-you, except the Macintosh. Cost \$199. Preliminary comments about David Small's Translator for the Magic-Sac Macintosh emulator suggest it will be a bit copier also, which will do what Avant-Garde's box will, but also run copy protected Macintosh software. The 1st 100 Translators that Small will produce are already spoken for at a \$229 price, a special early-order arrangement. To compete or keep-up with the 32-bit "enfant terribles" that are appearing Atari is purportedly releasing a 32-bit box at the Hannover fair in Germany which will make your Mega even smarter and faster and allow it to fraternize with all sorts of big machines. The CD ROM machine that Atari gave such publicity to way back when may curtsy and come on stage again at Comdex this fall. Any re-emergence would suggest that it also would have to be market ready. And finally, where is the Atari PC, you ask? Well, a mounted mole in Canada suggests that 100 PC's have been shipped to Atari Canada. They seem to be confronted in the U.S. with a bad case of vapor-ware lock at the Federal Communications Commission.

SOFTWARE

Compatibility -- Two dealers, one in the mid-west and one in the south have been spending a couple of hundred hours testing current ST software with their developer Mega ST4's. One reportedly has tested 650 programs, the other double that number. In addition a list of the first 40-odd programs that were incompatible was sent to Ironworks BBS in California and it went up on Compuserve, after being tested by Ironworks to confirm the problems, some minor some major. Ostensibly, Niel Harris, who hopefully is receiving hazard pay from Atari for their use of him as a heat shield, protested volubly. Why is not clear, other than to deflect the ugly spots this splattered on the three-piece suit Atari was trying to dress its new "business machine" in. For in point of fact, Atari had no way of knowing what worked and what didn't, their curator of the software library away on vacation, and nobody available to spend two hundred hours to prove or disprove the other testing. What is true, is that this is not Atari's fault, as Harris apparently tried to make abundantly clear. Indeed, the one thing Atari did in issuing developer kits to programmers who were to write the early software for the ST was to emphasize and re-emphasize the one no-no that could come back to haunt zealous programmers, "No illicit calls to the operating system!"

Why, we, the uninitiated, might ask? Simply, because when the operating system is changed, those calls run into a "black hole" and the program bombs. The guilty thus are the programmers who read and paid no heed, and the other programmers, some of them heavy weights who have produced outstanding software, who never even bothered to get the developer manuals. And what is the price? Software houses will now be faced with the expense of revising, in some cases this may be cost prohibitive, and then issuing compatible revisions.

How extensive is the incompatibility with the new ROM's. (All specific items cited here are to be viewed as tentative since they have not been specifically tested by CN.) In the aggregate it looks like it may be as high as 10% or more. Of 650 programs tested a bit over a hundred didn't perform without flaws. Of the other larger group, purportedly over 200 would not run properly. What do we mean without flaws? Initially PUBLISHING PARTNER was part of the list. We talked with Soft Logic and they had just spent several days working it over, not with a Mega St, since only developers had them at that point, but with a 1040 with the new ROM's inserted. What was awry were the "hash marks" on the rulers, and a mouse right-button erase function in the graphics mode. This is minor but some are major.

Most bulletin board programs do not appear to work. Other products that initially were reported not to run without some hangup or imperfection are DATATRIEVE, POWERPLAN, K-SWITCHER, LDW BASIC, WORD WRITER ST, LATTICE-C, MUSIC STUDIO, GFA BASIC (which has a new version 2.2 which does), some if not all Epyx games, sold by Electronic Arts, half of Unicorn's educational programs, and some Activision and Accolade games.

Are their solutions? Of course. If you remember the old Atari 800 and the gasp that went up when the 800XL came out and some of the same problems surfaced, then you remember, though it did dampen reception, within weeks people were running their programs with only minor inconvenience, e.g. loading in the old operating system from software. The same can be done for the Mega ST's. Additionally you can run "Make One Meg" and turn your ST4 or ST2 back into a 1 meg machine for purposes of the program you love to use that is incompatible. Also buyers of the new Mega ST's who are just entering the ST market will have little problem, "testing before buying" as honest John, your local dealer would prefer you did. Mail order buyers will have to confirm with software publishers or friends before they order. And of course, those of you who were eager to get your hands on the new ROMs to slap into your current machine, which you've upgraded in memory to act like a 4 meg heavy, will ponder a bit probably. But the important thing, we believe, is that for all intents and purposes the machine is a success, software developers have already started turning out software magic that will do multi-meg dances for you, and peripherals are being designed that will generate new agony for your computer-leaned checkbooks.

SNAP SHOTS

PC's, Atari, Federated -- One other reason why Atari acquired Federated Electronic Stores (see Bob Kelley's column) was to find a friendly outlet for two plus warehouses full of Commodore PC-10's, which were selling for \$1199 before Commodore discontinued the line. At \$600 you might be able to empty the warehouse. So the key, unknown, was the price Atari paid. This also raises the question about Atari expanding out of the purely computer business. Atari vs Tandy, with an emerging network of Radio-Shack type stores?

Electronic Music Lovers -- One of CN's authors, Grant Slawson, is currently conducting a midi clinic at Cal Com (2503-B, Ennalls Avenue, Silver Spring, MD) at 6-9 P.M. Monday evenings. Purpose of the clinic is to give people a chance to see, try and ask questions about midi software and hardware, which can be relatively expensive, before they commit.

THE ATARI MEGA ST4

First Impressions

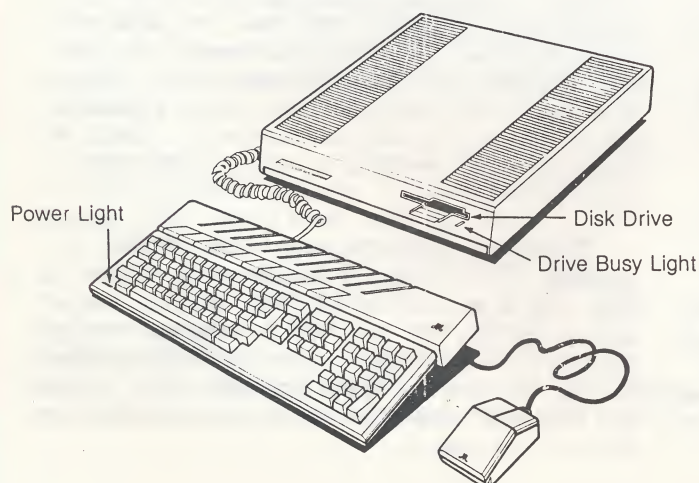
[Believe it or not, the MEGA ST (blitter chip and all) is a reality! In fact, this issue of CURRENT NOTES is being produced on a MEGA ST4. Several CN readers are Atari developers who have taken advantage of Atari's offer to provide the new MEGAs to developers before they arrive in the stores. Jwahr Bammi and Andy Nicola teamed up to take a close look at Andy's new MEGA. Bruce Noonan, of ST Writer fame, also gives us his impressions of the new MEGA. Their reports follow. Your CN editors will have a bit more experience with the MEGAs by next month and we will give you our impressions then. - JW]

A LOOK INSIDE AND OUT

by Jwahr R. Bammi and Andy Nicola

Since its announcement last January, the MEGA ST4 computer has been somewhat of an awesome myth among Atari enthusiasts, especially those of us who live within the continental U.S. At the same time we all have had time to reflect on what might be done with such power (4 Megs of RAM on-board!) and what exactly are the capabilities and limits of this machine. This report will attempt to present a first hand overview from a users perspective of the machine along with some definitions and insights.

The unit arrived nicely bundled in a retail store pack, not unlike the same carton which packaged the 1040ST. The MEGA unit is noticeably heavier though. The new users manual is extremely well laid out compared to previous attempts by Atari, and along with the BASIC Language disk was an advanced programmers reference guide only. Is Atari trying to tell us something here?



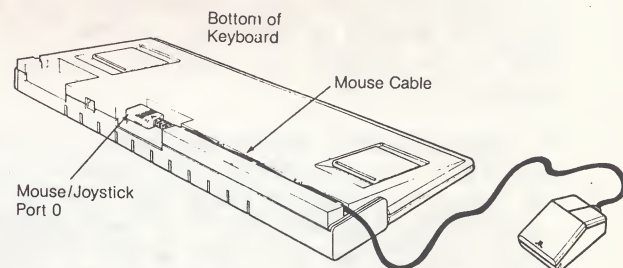
The machine itself consists of basically three pieces: the CPU box, the keyboard and the connecting cable. Assembling the unit took only a minute and only a monitor and external drive (if needed) required any thought for placement. Placing the monitor on top of the CPU box is acceptable and either color or monochrome are easily accommodated.

This unit originally came without the blitter chip, but since then the blitter has arrived and been installed. More on this later.

A First Look Outside

The first thing one notices about the CPU box is that a small hook-like extension protrudes from one of the rear casing vents on the top near the rear of the unit. Opening this small door reveals a compartment for two AA batteries which will maintain time for the built-in clock. Operating the unit without these batteries is okay, but your files will not be accurately updated with the correct time and date stamp.

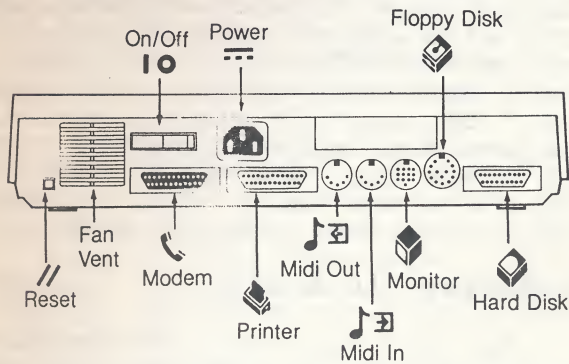
Next comes the insertion and placement of the mouse. Under the keyboard, behind the F5 key there is a left-to-right horizontal configuration for placing the mouse out to the right, and a joystick out the left. The attached wires are to be buried in a neatly placed groove under the keyboard, serving a two-fold purpose: keeping the desktop much neater than before and taking up some of that awful slack.



Placement of the CPU box and proximity of the detachable keyboard will be a prime consideration for many people. Atarians are not used to this kind of special treatment unless they are already spoiled by another environment. With this in mind, it must be noted that the footprint of the machine is about equal to 2 1040ST's, back-to-front, but only the keyboard itself is as wide.

The CPU box comes with an Atari standard double-sided drive built-in. Access to the drive

is from the front of the unit and if the unit is directly in front of you, this can take some getting used to. The keyboard connecting cable plugs into the left side of the CPU box a little more than half way back, in a recess in the case where the cartridge slot is also located. All other standard ST plug-ins are along the rear of the casing and they seem to be better organized for peripheral placement than on previous units.



The keyboard may be placed on the desktop in one of two configurations. Out of the box it lays flat and may be preferred by some. For those of us who are a little lazy in our reach, there are 2 flip-up extension flaps which raise the rear of the keyboard 5/8". The keys themselves have a much firmer feel on the downstroke and is probably the best 'feeling' keyboard Atari has ever produced, just inching past the feel of my old 1200XL! The layout of the keys is the same as previous ST units including the function keys and numeric keypad. The 45 degree to the right grooves in the casing have been replaced with hash marks equally spaced the same width as the function keys. For those individuals who like to have the keyboard in their lap, never fear; the connecting cable is of sufficient length and strength to accommodate you comfortably. Don't get too laid back, though, or you will be picking up your mouse off the floor. After the first or second time you ought to be cured.

A First Look Inside

Opening the unit for the first time was very exhilarating as I could not wait to see all the goodies we all had heard about for so long. After removing the casing and the shield, and carefully detaching the wires to the clock batteries, there it was! An almost perfectly square motherboard which had been completely redesigned for efficiency. All the components looked well placed and natural. The photographs of this board that have previously been published in various magazines do not do it justice, nor do they reveal some of the hidden hardware enhancements Atari didn't tell anyone about!

- * First off, there are holes drilled in various places on the motherboard which indicate that

another drive could easily be fitted into the case (there is plenty of room under the shield).

- * Second, there is a 22-pin bus that is hardwired to the DMA port on the motherboard that Atari didn't even know existed until they received the units from the final assembly point. What could one do with such a bus you might ask? Well, for starters, how about the direct connect of other DMA devices, such as hard drives and laser printers, without the need for daisy-chaining.
- * At the junction on the board where the power supply plugs in, there is an extra plug-in for another powered unit!? What could possibly go here? The first thought that came to my mind was (a drum roll, please) a hard card!! There is plenty of room under the shield, the 22-pin bus is open, and a source of power...so, a low voltage, single-slot, half-height 20Meg or 40Meg hard card would be ideal!!
- * The promised expansion bus is present in all its glory, and there is a removable cutout in the back of the CPU box casing for annexing external devices.
- * Inside the right rear of the case is a small fan. It is extremely quiet and pulls air in through small vents on the top right of the case above the disk drive. This is the first time a fan has appeared in an Atari computer.
- * The new TOS ROMS are, of course, included and will be discussed shortly.
- * One meg RAM chips are standard in this unit and all other components are the same as previous models with the exception of the blitter and clock chips.

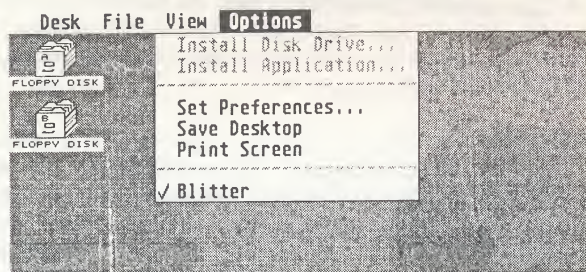
The blitter chip was a little tricky to install. Apparently Atari knew that some units would be shipped without blitters, but the original blueprint of the motherboard does not call for this omission. Two pads (jumpers) on the motherboard had to be removed before the blitter could be installed. It is necessary to insure that all solder is removed and a zero continuity check be made across these pads before powering up the unit. [Note: this information is given only for those individuals who received similar units, developers, etc. The standard release production models that will be at your Atari dealer will not require the buyer/end-user to perform this work.]

On the Surface

Many features of the GEM desktop are the same, but some have been enhanced tremendously by

the new TOS ROMS. Specifically, a dialog box now appears to ask for confirmation of saving the desktop configuration with a default of 'YES'. All double clicking on files other than executables will default to the 'SHOW' function and spurious problems that sometimes occur with disk reads default to 'RETRY'. Foreign language documents with international characters now allow all characters to be viewed fully on the screen.

Open windows with more than a window full of files now allow smooth scrolling on the arrow pointers or the slider bars just by holding down the left mouse button. Changing the names of icons now allows for lower case letters to be used rather than being forced into an upper case mode. Under the OPTIONS drop down window there is an extra slot for acknowledgement of the blitter. A check mark indicates that the blitter is in an access mode. Clicking on this will turn the blitter off as indicated by the missing check mark.



Launching applications is much quicker than before and TOS text scrolling is greatly enhanced. A much larger buffer space is utilized for the copying of files which reduces the number of disk swaps for floppy only users. In fact, most programs manipulated during file management will transfer in one pass. This has to be a boon to single disk drive owners.

The overall performance of the unit was more than expected, but there were a few minor quirks. The placement of the power switch near the right rear of the CPU box made it extremely difficult for a right-handed user to get at without actually standing and reaching for it. Being right-handed, I cannot imagine the contortions a left-handed person might go through. The same limitation exists for the mouse placement. If a left-handed user runs the mouse cord under the keyboard for easy access, he must also elevate the keyboard so that it doesn't 'roll' on the desktop. These are minor considerations, but considerations just the same.

A Second Look Outside

We found the aesthetics of the system as a whole much more pleasing than anything previously from Atari and concurred that the styling and

comfort were to become major considerations for many buyers. There is a consistency here that says, First look at me, then, watch me fly!'

Decisions...Decisions...

Reaction of authors and of associates was that Atari gets full marks for the engineering and packaging of the product, but very low marks as far as any new innovation is concerned. Some of us are in a dilemma whether to upgrade our existing 520/1040 ST's using one of the many memory upgrade boards available, along with a new set of ROMS, essentially bringing the machine up to the technical level of the MEGA ST's, or to go for the real thing. It finally boils down to a matter of personal choice. One of the authors decided it was worth it the other did not.

A message to Atari..

What Atari's plans are for the expansion bus is anybody's guess. It is felt that third party developers will be on their own here and probably not without some cost. The new generation of 32 bit personal computers are just beginning to appear in the marketplace. With a little effort GEMDOS can be cleaned up to make it compatible with the 68020 processor. Atari's "POWER WITHOUT THE PRICE" philosophy along with a 68020 based MEGA ST would certainly satisfy the craving of this "techno-junkie".

[Jwahr R. Bammi is a graduate student research assistant in the Computer Engineering and Science department at Case Western Reserve University in Cleveland, Ohio. Andy Nicola, who is the original compiler of the ST Software list and author of the new ST Software Catalog from Atari, donated his MEGA ST4 computer for this report.]

A MEGA ST4 HANDS-ON REVIEW

by Bruce D. Noonan, M.D.

OK, you're probably asking how did this guy get ahold of a MEGA ST4? As an Atari developer, I found that I was entitled to one of the first production models of this fantastic computer, including a blitter chip, for a substantial savings. I won't mention how much, as this was without a monitor, but I understand the retail should be near \$2600. Still, when compared to the thousand dollar per megabyte standard, even at this price Atari fares much better than the competition.

The computer is sleekly styled, with all the brains in a square unit 13" x 13" by 2 3/4" high. The "box" contains a double-sided floppy drive on the right front, and the cartridge port on the left rear. The coiled keyboard cord plugs in

next to the cartridge port. All the ports except for mouse and joystick ports are located on the main unit. The joystick and mouse ports are located in the keyboard rear, with "tunnels" for the cords to each end. The main unit contains a fan which seems substantially quieter than my 20 meg Supra Drive. A small removable plastic insert is part of the posterior wall of the main unit, which has an expansion slot inside. The case is reinforced with nine internal supports allowing placement of the monitor on its top. There is also a compartment for installation of two AA batteries for the internal clock.

I am impressed with the lack of power-supply cords and the ease of placing the keyboard on my lap, for example. There are two foldable supports under the keyboard which allow it to be propped up to a better typing angle. I LOVE the keyboard! The keys are much more responsive, less mushy than the 520, and reminiscent of my old Atari 800.

When my MEGA arrived, it did NOT have the blitter in it. Apparently, each of the chips was undergoing individual testing. However, 13 days later the blitter arrived with two xeroxed blurry diagrams of the case interior, and arrows pointing to two pads which needed cutting and the socket for the blitter was indicated. I rushed to put the square blitter chip in the socket, but was apparently unable to cut the solder on the pads completely with my x-acto knife. I say apparently, because when I reassembled the case, the ST refused to boot! Sinking feeling in my stomach, sweaty palms. I'm a software hacker, and hardware and electricity are like magic as far as I'm concerned.

Trying to maintain my cool, I bundled up the scattered parts -- case cover, base, circuit board, RF shield, keyboard and power cord, and headed for the local computer store with a plea for them to stay open and suck some solder for me. It was done at no charge. (Thanks, Family Computer of Lynnwood!) And best of all, there now was an indication at the bottom of the Options menu of "Blitter". Whewwww! The possibility of frying a 520 is one thing. But a multi-thousand dollar chip barbecue was not my idea of fun.

I was anxious to try out some of my favorite software to test compatibility. Unfortunately, the first one I tried was *K-Switch* from Kuma. It seemed to boot okay but when I tried shifting from one half of ram to the other by pressing both Shift keys with the Alternate key, nothing happened. Speaking with Atari about this, I was told that Kuma used all sorts of devious means in programming which is not supported by the new ROMs. As expected, one of my other favorite programs, *Mousetrap*, also failed to work, as they poked three undocumented locations for mouse

parameters which apparently have been moved in the new ROMs.

I also experienced problems with stopping a GFA Basic program by pressing Control-Shift and Alternate at the same time. It doesn't work. However, the compiler, editor and programs run otherwise without a hitch.

I had an old copy of *Regent Spell* with TOS.IMG on it. When I deleted the file to get more room for adding dictionary words, it ran fine on my 520ST. But the boot sector apparently gave fits to the MEGA. As you know, only the directory entry is removed when a file is deleted. The file still is on the disk. Anyway, I kept getting bombs if I tried to boot with the disk. If I booted with another disk, *Regent Spell* worked just fine.

I played around loading some foreign TOS's. It seemed to take a very long time before the desktop appeared. This is due to the OS zeroing out all of memory one byte at a time after loading the TOS from disk.

So far, I have created some truly LARGE RAM-disks using Compute!'s recoverable *RAMdisk*. Michtron's *MDISK* only allows 820K maximum. *MEGA-max* and *Alcyon C* compilers work as usual. I did have problems with the automatic *RAMdisk* on the *ST TALK* disk. I could download into it and copy out of it, but then the directory became scrambled and the OS failed to recognize it being present.

Other programs running well are *Flight Simulator II* (no, the blitter didn't seem to speed it up), *Leaderboard*, *Laser Chess*, *Monopoly* (some speed up with the blitter 'on'), *Athena II*, *Psion Chess*, *Chessmaster 2000*, *Publishing Partner*, *Star Glider*, *Bridge 5.0*, and of course, *ST Writer 2.0*, which allows formatting of disks in the fast format with the new ROMs.

Cornerman had some problems. It would not install and boot-up failed if the *DESKTOP.INF* file was saved with Blitter 'on'. If the blitter was turned on AFTER boot-up, all seemed to work as usual.

I'm really looking forward to what this new machine will be capable of. Especially animations using a large *RAMdisk* to hold sequential picture files, and large document files. Atari has finally produced a very solid business machine with the MEGAs. I am interested to know if *pc-ditto* runs on the MEGA. I plan to try it in the near future. I'll let you know. [Bruce did try it. It didn't work. However, according to Atari, the problems have been identified and a patch will be released so *pc-ditto* will work. JW!]

ATARI SCUTTLEBITS

By Bob Kelly

ATARI'S SHORT-TERM FINANCIAL OUTLOOK ...

I concluded the last column with a tidbit relating how Atari's recent success on the U.S. stock market can be attributed to their overseas sales. Sources for this information were a number of stock analysts. Among those queried were individuals who work for a particular brokerage house, Paine-Webber.

A. PAINE-WEBBER ANALYSIS

On Aug. 6, 1987, Paine-Webber issued an updated analysis for Atari Corporation (ATC). It stated, "We believe that ATC stock offers some of the best upside potential over the next 6 - 10 months of any company we follow. We reiterate our buy (1)". [FOR GENERAL REFERENCE: Paine-Webber was recently hired by Atari to act in an investment banking capacity]. Even when factoring in the business relationship between Paine-Webber and Atari, the (1) rating is exceptional. Paine-Webber felt that the new 2 and 4 megabyte computers, soon to be released IBM-PC clones, laser printer, and the new game machine would significantly increase domestic and international sales.

Atari announced also at this time its second quarter results. Sales rose up to roughly \$71 million for the second quarter versus \$61 million for the same period in 1986. For the full half year, sales were approximately \$136 million versus \$106 million for 1986. Six month net income was \$29 million or \$.50 per share versus \$12 million and \$.28 per share for 1986. This indeed was good news and the stock market reacted accordingly. By late August, Atari stock was selling for \$14.25 per share and poised for further growth.

Frequently, I am asked, "Do you follow your own investment advice?" The answer is of course yes, but any decision is accompanied by some non-analytical soul-searching. In any event, I bought some ATC shares in mid-August. A week or two after my purchase, Atari announced that they agreed to purchase a consumer electronics retailer named FEDERATED GROUP INC. When I heard of the purchase, I asked the expected question - who in the @#!% is Federated?

B. FEDERATED GROUP INC.

Federated Group is a regional consumer electronics retailer employing roughly 2,750

people. They operate 65 stores in California, Texas, Arizona, and Kansas. Federated has encountered considerable financial difficulty of late. In fiscal 1987, Federated had a \$5.2 million loss. Federated's present marketing strategy targets primarily 25 to 49 year old consumers interested in purchasing discounted electronic goods. Between 1984 - 87 they tripled the number of stores.

Two areas where problems arose for Federated contributing significantly to their poor financial performance in 1986 are:

- * At the same time they undertook their expansion program, other major national and regional chains did so, e.g. Circuit City. In fact, many electronic superstores are having financial difficulties with declines in earnings or losses for the first half of 1987. Business Week put it succinctly when it said, "Electronic Superstores may have blown a fuse".
- * Federated has been hit hard financially by the decline in the Texas economy where 19 of its stores are located. (This figure does not include five stores which were recently closed).

Atari agreed to purchase Federated for \$6.25 per share or roughly \$67 million. According to the Wall Street Journal, most financial analysts felt the price Atari is paying for Federated is a bargain. However, overall reaction was somewhat negative since no one could readily understand how this ailing consumer electronics retailer fit into Atari's short-term strategy. Some people have tried to convince themselves, as well as me, that these stores will somehow be upgraded and re-directed. They will quickly become the centerpiece for a network of retail stores selling the Mega series of computers. Thus, according to this rationale, Atari achieves Nirvana - its long sought goal of having "first-class" retail outlets. I just don't buy this reasoning in the SHORT-TERM, specifically:

- * The purchase of a consumer retailer located principally in four states does not appear to be a strategy which supports a rapid acceleration in the business market nationwide.
- * Selling high-priced Megs with low priced

compact disks is not an image that, in my opinion, will attract the large numbers of business users sought by Atari.

On the other hand, looking at the LONG-TERM:

- * Let's assume Atari decides to redirect the targeted income bracket for these stores to better support Mega sales. From what little information is at hand, this is probably the wisest business strategy to adopt. However, don't look for improvement in short-term profitability. It has been rumored that Sam Tramiel wants Atari Corporation to evolve into an electronics retailer similar to Radio Shack in concept and this is the first step in that direction.
- * In May, 1986, Federated Group signed an agreement with Commodore to market the Amiga. I do NOT know how sales of the Amiga have been. However, this situation presents a very interesting business relationship. First, does Atari/Federated want to terminate the relationship with Commodore? Second, if it does, it will take some time for the stores to gear-up and emphasize Atari computer products. This will not occur prior to the holiday buying season. Again, no short-term positive impact on sales.

Another option available to Atari in the short-term is that these stores could be an attractive outlet for its game machine/cartridges and the newly packaged low-priced 520 ST. This looks like a manageable market strategy.

C. FOURTH QUARTER SALES OUTLOOK

A recent report in the Wall Street Journal caught my attention. Infocorp, a market research firm, has predicted that personal computer sales will rise by 20% in the 4th quarter. In fact one firm, Entre Computer, believes sales might jump as much as 25%.

What's driving this outlook? Well, according to Infocorp, businesses are moving up to more powerful computers and the low prices in the home computer market are encouraging people to upgrade or buy their first computer.

Such an outlook augurs well for Atari. Couple an expanding market, new products, and new retail outlets for low-priced models (including IBM-PC clones) with on-site service centers, 4th quarter sales could rise beyond the projected industry average.

One key to reducing the risk for anyone contemplating a short-term ATC stock purchase is

to get more information on how Atari plans to handle the 65 retail outlets. I called Sig Hartmann for Atari's view. Unfortunately, he was in Europe and will not return until after press time. One fact is that Atari stock has dipped since the purchase of Federated and as of September 19 it stood at \$11 per share - off by roughly 23%.

On the positive side, the overall computer market is trending upward and Atari should benefit - particularly if the Megs and clones are available in sufficient supply to satisfy U.S. demand (no vaporware). Also, don't forget 65-70% of Atari's sales are overseas and the word from Europe is that demand continues to exceed supply. Thus, earnings for the 3rd and 4th quarter for Atari should be up. The question is how much and will they satisfy market expectations?

Third quarter earnings will provide a vital key. While there is risk involved, I plan to hold my ATC stock, maybe even purchase a FEW more shares and re-evaluate in mid-November when more information on 3rd quarter results is available and the trend in holiday sales is more certain.

NIBBLEBITS

- My June column raised some questions concerning Trip Hawkins, the founder of Electronic Arts, and his attitude towards the Atari ST. The column as usual was finished by May 15th, 2 weeks prior to publication. I have since downloaded a text file composed of individual messages from late June found on Genie (# 3299). Basically, each message berates EA and then turns around and asks them to support the ST (the logic escapes me). EA responded stating that they have released top-flight software for the ST (taking credit for Batteries Included programs which in less diplomatic terms could be labelled plagiarism). If EA really believes what they are releasing from their OWN efforts is good software, bully for them. Personally, there still is no compelling reason for me to buy one of their software titles. Of course, you may do what you want, but I don't reward arrogance.

- Complaining about lack of 8-bit software dealers? Stop and take a look at the new Computer Palace catalog. One-half of the 60 page catalog is devoted to 8 bit. I usually don't advertise, but if you need a copy call 1-800-452-8013.

IT'S A SMALL WORLD

By David Small, (c) 1987

THE SDI AND THE TESLA COIL

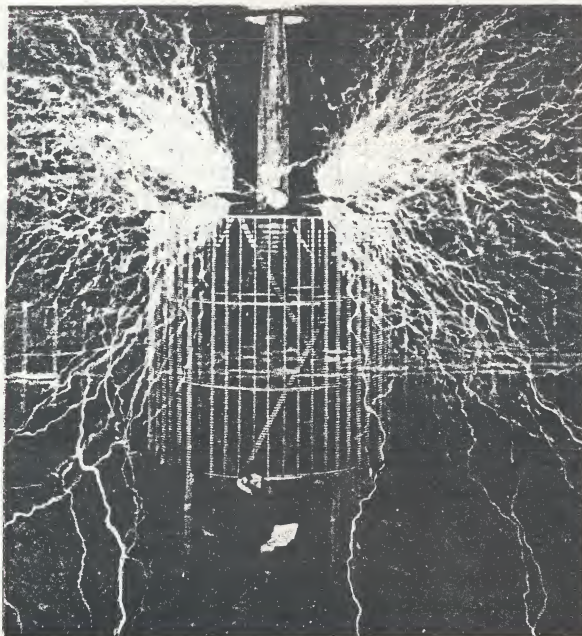
The World's Greatest Hacker: Part II

Last month we talked about an amazing hack that Nikola Tesla did -- bouncing an electrical wave through the planet, in 1899, and setting the world's record for manmade lightning.

This month, let me lay a little political groundwork. Last October I attended HackerCon 2.0, another gathering of computer hackers from all over. It was an informal weekend at a camp in the hills west of Santa Clara.

One of the more interesting memories of Hackers 2.0 were the numerous diatribes against the Strategic Defense Initiative. Most speakers claimed it was impossible, citing technical problems. So many people felt obligated to complain about SDI that the conference was jokingly called "SDICon 2.0".

Probably the high(?) point of the conference was Jerry Pournelle and Timothy Leary up on stage debating SDI. I'll leave the description to your imagination -- it was everything you can think of and more.



Discharge of several million volts cascading around Tesla in his Colorado Springs laboratory. The roar that accompanied such discharges could be heard ten miles away. (Burndy Library)

Personally, I was disturbed to see how many gifted hackers adopting the attitude of "let's not even try". That's not how micros got started. I mentioned to one Time magazine journalist that if anyone could make SDI go, it was the hackers gathered there.

I also believe that the greatest hacker of them all, Nikola Tesla, solved an SDI technical problem back in 1899. The event was so long ago, and so amazing, that it's pretty much been forgotten; I described it last issue. Let me present my case for the Tesla Coil and SDI.

Soviet Use of the Tesla Coil

You will recall I said that Tesla was born in Yugoslavia (although back then, it was "Serbo-Croatia"). He is not unknown there; he is regarded as a national hero. Witness the Nikola Tesla museum in Belgrade, for instance.

There's been interference picked up, on this side of the planet, which is causing problems in the ham radio bands. Direction finding equipment has traced the interference in the SW band to two sources in the Soviet Union, which are apparently high powered Tesla Coils.

Why on earth are the Soviets playing with Tesla Coils? There's one odd theory that they're subjecting Canada to low level electrical interference to cause attitude change. Sigh. Moving right along, there's another theory, more credible, that they are conducting research in "over the horizon" radar using Tesla's ideas. (The Soviets are certainly not saying what they're doing.)

When I read about this testing, it worried me. I don't think they're playing with attitude control or radar. I think they're doing exactly what Tesla did in Colorado Springs.

Computers and Grounding

Time for another discussion of grounding. Consider your computer equipment. You've doubtlessly been warned about static electricity, always been told to ground yourself (thus discharging the static into the ground, an electrical sinkhole) before touching your computer. Companies make anti-static spray for rugs. Static is in the 20,000 - 50,000 volt range.

Computer chips run on five to twelve volts. The internal insulation is built for that much voltage. When they get a shot of static in the multiple thousand volt range, the insulation is punctured, and the chip ruined.

Countless computers have been damaged this way. Read any manual on inserting memory chips to a PC, and you'll see warnings about static; it's a big problem.

Now Tesla was working in the millions of volts range. And his special idea -- that the ground itself could be the conductor -- now comes into relevance, nearly a hundred years after his dramatic demonstration in Colorado Springs.

For, you see, in our wisdom we've grounded our many computers, to protect them from static. We've always assumed the ground is an electrical sinkhole. So, with our three-pin plugs we ground everything -- the two flat pins in your wall outlet go to electricity (hot and neutral); the third, round pin, goes straight to ground. That third pin is usually hooked with a thick wire to a cold water pipe, which grounds it effectively.

Tesla proved that you can give that ground a terrific charge, millions of volts of high frequency electricity. (Tesla ran his large coil at 33 Khz). Remember, the lightning surging off his Coil was coming from the wave bouncing back and forth in the planet below.

In short, he was modifying the ground's electrical potential, changing it from an electrical sinkhole to an electrical source.

Tesla did his experiment in 1899. There weren't any home computers with delicate chips hooked up to grounds then. If there had been, he'd have fried everything in Colorado Springs.

There was, however, one piece of electrical equipment grounded at the time of the experiment, the city power generator. It caught fire and ended Tesla's experiment. The cause of its failure is interesting as well. It died from "high frequency kickback", something most electrical engineers know about. Tesla forgot that as the generator fed him power, he was feeding it high frequency from his Coil. High frequency quickly heats insulation; a microwave oven works on the same principle. In a few minutes, the insulation inside that generator grew so hot that the generator caught fire.

When the lights went out all over Colorado Springs, there was the first proof that Tesla's idea has strategic possibilities. It gets scarier. Imagine Tesla's coil, busily pumping up an electrical wave in the Earth. On his side of the planet, he was getting 130 foot sparks, which is a hell of a lot of voltage and current. And

simple wave theory will show you that those sort of potentials exist on the far side of the planet as well. Remember, the wave was bouncing back and forth, being reinforced on every trip.

The big question is how focused the opposite electrical pole will be. No one knows. But it seems probable that the far side of the planet's ground target area could be subjected to considerable electrical interference. And if computer equipment is plugged into that ground, faithfully assuming the ground will never be a source of electricity, it's just too bad for that equipment. This sort of electrical interference makes static look tiny by comparison.

It doesn't take much difference in ground potential to kill a computer connected across it. Lightning strikes cause a temporary flare in ground voltage; I remember replacing driver chips on a network on all computers that had been caught by one lightning strike, when I lived in Austin.

Imagine the effect on relatively delicate electronics if someone fires up a Tesla Coil on the far side of the planet, and subjects the grounds to steep electrical swings. The military applications are pretty obvious -- those ICBM's in North Dakota, for instance. It's possible they could be damaged in their silos, and from thousands of miles away.

Running two or more Coils, you don't have to be exactly on the far side of the planet, either. Interference effects can give you high points where you need with varied tunings.

Maybe, just maybe, the Soviets aren't doing "over the horizon" radar. Maybe they just bothered to read Tesla's notes. And maybe they are tuning up a real big surprise with their twin Coils.

"Star Wars" and the Tesla Coil

You've heard of the Strategic Defense Initiative, or "Star Wars". We're searching for a way to stop a nuclear attack. Right now, we've got all sorts of high powered research projects, with the emphasis on "new technology". Excimer laser, kinetic kill techniques, and even more exotic ideas. As any of you know that have written computer programs, it's darned hard to get something "new" to work.

Maybe it's an error to focus ourselves on "new" exclusively. Wouldn't it be something if the solution to SDI lies a hundred years ago, in the forgotten brilliance of Nikola Tesla? For right now we can immobilize the electronics of installations half a planet away. The technology to do it was achieved in 1899, and promptly forgotten.

Remember, we're not talking vague, unproven theories here. We're talking the world's record for lightning, and the inventor whose power system lights up your house at night. The Tesla Coil works. All we'd have to do is build it.

The inspiration for this idea came about this way: I had built a Tesla Coil, and was looking to tune it. To do so, you have to calculate inductance and capacitance to derive the resonant frequency. It's the sort of thing that just cries out for a portable computer. So, I brought out my TRS-80 model 100, plugged in a short LC program to calculate frequency, and did a trial run. I put in a new capacitor, and turned on my Tesla Coil to see the results.

When I walked back to my computer, ten feet away, it wasn't working any longer. The radiated energy of the Coil had fried it. I measured hundred volt "peaks" in the area the TRS-80 had been in.

Well, there you have it. Those of you with electrical knowledge will see that I've under-written this from an engineering point of view. I didn't give the capacitor sizes, or the input voltage and current, or the spark gap length Tesla used. However, if you'll check out the metric system units, the IEEE records for man-made electrical discharges, and any of the reference works on Tesla, you'll find the facts to back up what I'm saying. *It really happened.*

As for me, I've got two small Tesla Coils in my basement. They're small because they only put out sparks a foot long. I've had a lot of fun tuning them into resonance and playing with them. Just as a for-instance, if you hold a fluorescent light bulb anywhere near a Tesla Coil, it will light up in your hand, (look, Ma, no wires!) from the energy being put out. My kids, four and five, call it Daddy's Magic.

Recently, I've been pleased to see some cautious comments made towards publicizing Tesla and what he did. Tom Bearden from Texas holds press conferences now about Tesla and the marvelous SDI possibilities. The Denver Planetarium set up a gigantic Tesla Coil and gives public demonstrations. (They bought it from a Yugoslavian firm, I understand). And the Discovery Channel, on cable, had a nice hour-long program on Tesla. Watch it if you can; the sight of fifty foot sparks will stay with you a long time. And watching the Soviet Tesla Coil output being picked up in Canada, and displayed on the oscilloscope, is the stuff of nightmares.

I have no tidy conclusion for you. Yes, the technology is out there, and no, the genie isn't going back in the bottle. I have no idea how or if it will be used. I do hope the use doesn't come as a surprise.

You might not believe the story about Tesla in Colorado Springs, and what he did. It's pretty amazing. It has a way of being forgotten because of that. And I'm not sure you want to hear about the SDI connection. Still, as you work on a computer, remember Tesla. His Tesla Coil supplies the high voltage for the picture tube you use. The electricity for your computer comes from a Tesla design AC generator, is sent through a Tesla transformer, and gets to your home through 3-phase Tesla power. Tesla's inventions ... they have a way of working.

For people interested in building a Tesla Coil, I recommend the July 1964 issue of Popular Electronics (probably at your local library), which has two excellent designs, and an extra dose of caution with the neon sign transformer.

Inez Hunt's book, *Lightning in his Hand*, is one excellent reference on Tesla. There are several others. Tesla's lab notebooks from Colorado Springs, describing his experiments, are now available.



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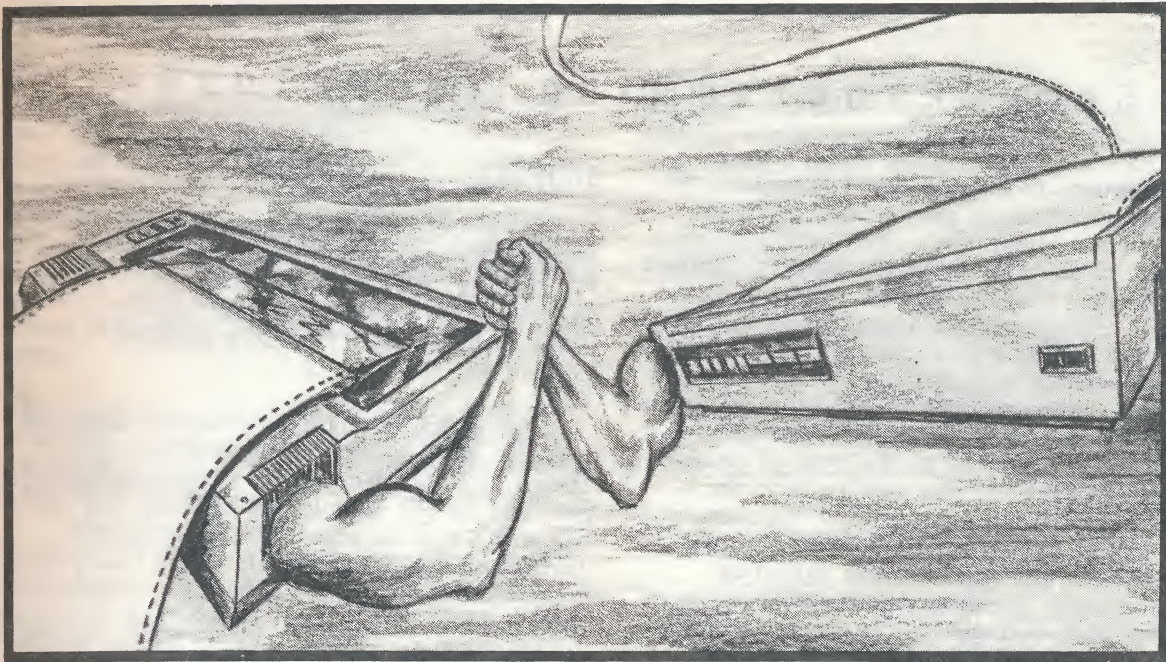
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By Mark A. Brown

XL - 18 - XE

TIPS 'N' TRAPS

By Jim Stevenson Jr.

Well, we have quite a bit of material this time. It's incredible. Just this month, the column has jumped in size quite a bit. Keep up the good work to all of you out there who have called and mailed in. Once again, if you have any problems, or if you have any solutions, or more preferably hints to various questions around the column, mail messages to Joe Waters (whose address is on page 3), or call in at any of these numbers:

Me.....(703) 378-4093 (voice)
 ARMUDIC.....(703) 569-8305 (modem)
 Electronic Age.....(703) 620-0851 (modem)
 Merlin's Litterbox..(703) 250-7303 (modem)

See you next month.

LURKING HORROR

Q. I got the stone, all the food and drink, the axe, the wax, the gloves, the plug, the message, and the crowbar. I moved the junk with the crowbar, and the manhole. Now I'm stuck. I tried giving the Chinese food and the Yummy Bones to the urchin, but we still couldn't figure out what to do next!

- "The Archer"

A. I'll leave you with two hints: (1) The hacker is hungry; (2) Think of a way to put a stop to the floor waxer.

-Sam Wright

Q. Don't you mean that the URCHIN is hungry? Also, I chopped the chord (or did I?).

- "The Archer"

A. No, it's the hacker who's the one that's hungry (or at least the one that does something in return for your good-heartedness).

-Sam Wright

Q. Where do you get Chinese food from?

- "Barracks Rat"

A. The Chinese food is in the cardboard carton. I think its near the 2 liter bottle of Coke and the Funny Bones...

- "The Archer"

Q. In the lab, I cut the line with the knife, got out of the pentagram, and now I'm stuck. Can I have une petit hint?

- "The Archer"

A. Save it for later. You'll figure it out once

you find something else out. Explore some more, looking around and reading all the descriptions. That usually helps you get past a certain point.

-Sam Wright

TRANSYLVANIA

Q. Can someone tell me how to either:

- A) Kill the Werewolf?
- B) Get the key from the Goblin?
- C) Move the Rock Slide?
- D) Read the stump?
- E) Get anything from the cat?

- "Stainless Steel Rat"

A. A) Use the silver bullet with the gun and shoot the werewolf.

B) Say "IJNID" to the goblin.

C) The cave is a red herring. Don't worry about it.

D) You have to pour acid on the stump to clear it off. Then, Knock the stump, and go down into it. Catch the flies, read the book, and pick the lock (wear the cloak to find it), and go into the next room to the north. Look at the crystal ball. To get out, Take the book with you.

E) You give the mice to the cat in the hut to get the broom and acid for later in the game.

-Jim Stevenson Jr.

Q. I found the magic elixir, I wave the potion, pour it on the statue, then clap my hands. Why doesn't anything happen?

- "Sci-Fi"

ULTIMA IV

Q. Does anyone know the solution to the question "What does thou posses, if all may rely on your every word?" asked in the codex chamber. (Specifically!)

-Geoff Lehman

THE PAWN

Q. But what do I do after I get the band removed? I got the debugbits, but don't know what to do with them. Also, past the red dotted line is a white void. Is it there nothing beyond it, or is there something I can do about it?

- "Longshot"

STATIONFALL

Q. Has anyone out there gotten more than 23 points on Stationfall? If so, I would like to ask the following:

- 1) Where is the platinum?
- 2) Where is the FREZONE (tm) Liquid Gorzium Explosive?
- 3) Where is some money?
- 4) How do I find the combination to the Station Commander's safe?
- 5) How can I stop Plato from shooting me?

- "Max Quordlepleen"

Q. Can anyone tell me where I'm supposed to take the space truck at the beginning of Stationfall?

- Jan Meisler

BARBARIAN

Q. How does one past the dragon in Barbarian? And/or how many arrows do you need at the end (I assume) to kill the evil wizard (if you DO kill him with arrows).

- "Jack Flack"

A. Jump over the dragon's fireball and run past him. Note, though, if you screw up the first try, you're finished.

- John Connor

KING'S QUEST III

Q. In KQ III, can you get the wand before you get all the items to make spells with. If so, then please give me a hint on how to get the wand.

- "Stainless Steel Rat"

A. Don't get caught by the Wizard with spell stuff. Hide them under the bed. However, the wand you MUST replace. Search his room.

- "The Archer"

Q. I have looked all over the island and have not found the stone of unusual color. Doesn't anybody have any hints?

- "Stainless Steel Rat"

A. Search for the cavern and enter it, talk with someone or something inside.

- Jeff Hand

Q. Yes, I have seen the cave before (it's hard to miss). But the next question is how to get past the web? I've tried throwing, and cutting with everything including the knife, but with no success.

- "Stainless Steel Rat"

A. Make a certain spell to change your shape, Something with a beak for the spider's sake. Stab with your beak in the spider's side, Then send him for a water ride.

Change back to your normal form,
Return to the cave of the spider's dorm,
Enter the cave with the torn web of dew,
I trust you'll find someone waiting for you.
- "Prince Alexander"

INFILTRATOR

Q. I had gotten the pictures of just about everything needed but can't find the War Plans, has anyone been able to?

- "Flash"

A. If you photographed everything, then that's it. When you've finished taking pictures of the things, look at your inventory. At the bottom it should say "Mission completed" or something like that. You really can't distinguish the war plans from the other stuff.

- "Zor Prime"

LAPIS PHILOSOPHORUM

Q. Anyone know how to find the combination for Lapis Philosophorum?

- "Ekin"

HITCHHIKER'S GUIDE TO THE GALAXY

Q. How do you get out of the bar with Ford? And how do you get on the Vogon ship?

- "Flaming Carrot"

A. To start out with, when you are in the bar, whenever Ford says to drink the beer, then drink the beer. If he doesn't say to drink the beer, then wait. When Ford runs out, follow him. Always follow Ford. He will drop something. Pick it up, and examine it. There is a button to push and when you push it, you will end up in a place where you can do anything (see, smell, fell, hear, etc.) Keep waiting. When the part about smelling disappears, then type "smell". I think you can figure it out from there.

- Jan Meisler

A. Also, when you get to the bar, say "BARTENDER, GIVE ME A CHEESE SANDWICH". When you leave the bar after drinking three times (no more, no less), give the sandwich to the dog. That way, you won't have to re-start the game later on...

- "The Archer"

LEATHER GODDESSES OF PHOBOS

Q. How can I get into the igloo?

-Rick Tietjens

QUESTRON

Q. Where do I find the horn (or whatever) when Mesron says "You are still missing a piece to the puzzle.", etc.?

-Rick Tietjens

GOLDEN PATH

Q. How do you get the dragon's tooth?

-Jeff Hand

A. You'll need two items, one with art,
This one magical the other sharp.
By holding the one with its frightening
design,
Enter his fire and finish his time.

There on the ground his tooth will lay,
Pick up this and continue on your way.

-Y'in Hsi

Q. Does anyone know how to get past:

- A) The water fall?
- B) The crocodile moat?
- C) The background scenery?

A. For your A part that I did read,
Clearing this obstacle is not in need.
For your B part (which makes sense),
Return a son and collect ingredients.

The powder will make the demon's end,
Take the potion to your crocodile friend,
Empty the vial in his moat,
Let it take effect and he will float.

For your C part it is not clear,
About the scenery in the rear,
The box in the right corner shows the paths,
But not the monster's evil wraths.

For this question I do not know,
Maybe if you read what the instructions show.

-Y'in Hsi

*Note: Rhymes submitted by Steve Webb.

Small Miracles

(Continued from page 18)

umlauts on their O's), and a little from Asian countries. Well, now I proudly add another country to that list: Austrailia. Roger Smith of Tasmania sent in RSGRART, a fun program that contains several creative ideas and techniques. For those of you weak on geography, Tasmania is the island south of the continent of Australia in the Pacific ocean.

Atari's Small Miracles is always in need of programs to fill up this space. If you have a few miracles taking up space on your diskettes that you are especially proud of, send a printout of them to:

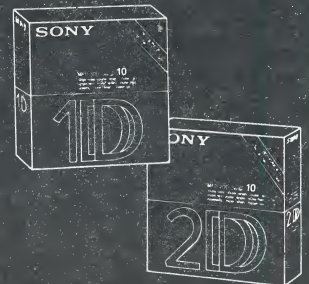
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And no, I do not have any ideas for what next month's theme will be like! See you then.

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BATTLE BYTES

By M. Evan Brooks

A FAREWELL TO ARMS

With ever decreasing Atari software being released, this will be the final column of *Battle Bytes* (aside from yearly wrap-ups). Discussions with software designers reveal that less will be released; for example, although many Atari publications claim imminent publication of Microprose's *Gunship*, the sad fact is that no 8-bit conversion is in the works.

This reviewer has now acquired the C-64 and an IBM-clone in order to continue his avocation. Writing for *Computer Gaming World*, it has become obvious that the 8-bit Atari is a product whose time has passed (at least for computer simulation). This is a shame, because it is the best computer ever designed for user-friendliness. Although most designers state that piracy spelled the demise of the 8-bit Atari, this reviewer feels that Atari corporate policies more than contributed to the lack of viability.

But, in a final review, consider one of SSI's top-selling products -- *Wargame Construction Set*.

Wargame Construction Set (hereinafter *WCS*) is SSI's offering which allows you, the consumer, to design your own wargames, on any scale and at any period in history. While the sheer breadth of such an undertaking is enough to leave one breathless, in point of fact, the execution of the *WCS* leaves much to be desired. The *WCS* is composed of a Game Disk (which allows actual play of scenarios) and a Editor Disk (which allows the end-user to design his own scenario).

The designer, Roger Damon, is no novice in the computer wargaming field. His prior efforts include *Operation Whirlwind*, *Field of Fire*, *Panzer Grenadier*, and *Nam*. All of these prior simulations bear a marked resemblance to one another in terms of the game system utilized, and it should be no surprise that *WCS* is also another (and probably the final) derivative.

This accounts for one of the problems with *WCS*. In effect, the game is merely a release of the source code utilized in Mr. Damon's previous releases. There are no innovations in wargame design other than the ability to let the purchaser "design-his-own". But this has been done before by other designers as part of the original package, e.g. Gary Grigsby's

Kampfgruppe-series, and more recently, SSG's designs (*Carriers at War*, *Europe Ablaze*, and *Battle Front*). Therefore, is there enough here to justify this product?

If a wargamer does not have a Damon design, then *WCS* may be just the ticket. However, if one has purchased prior Damon designs, then *WCS* will not gain much play time. The enclosed scenarios are quite varied in time and scale, and overall, they are not historically detailed enough to attract the *groggnard*. The problems with *WCS* are manifold. First of all, the ability to design-your-own wargame is not really for the novice. Detailed historical research and much playtesting is required in order to have a viable wargame; such an expenditure of time and research is simply beyond the means of the average gamer. Second, the ability to modify design parameters does not extend to Mr. Damon's prior releases. For example, if a *Nam* scenario is loaded, *WCS* will not recognize it or allow the user to modify it. Third, the original disk is required in order to play any scenarios designed. Thus, the consumer cannot design his own magnum opus and give it to his friends, unless they have *WCS* so that they can load it.

As for the simulation itself, *WCS* simply attempts too much with too little. Mr. Damon's system was designed for introductory World War II tactical/operational scale scenarios. *WCS* allows one to determine the scale (tactical/operational/strategic), but all this really does is affect the map appearance. Prior designs all possessed the same flaw; reconnaissance by fire is overemphasized. If there is any key or blocking terrain, the optimal solution in these games is to utilize massive fire suppression and maneuver. While recon by fire is an accepted technique of combat maneuver, it is not the only method. It has the disadvantages of revealing one's position and strength. This is not to say that this type of design is fatally flawed; one should merely know the limitations of the simulation.

Aside from the design parameters itself, Mr. Damon offers eight ready-to-use scenarios. While these can be entertaining, they also point out the deficiencies in this product. The most glaring aspect is the character set; unmodifiable, they are taken straight from Mr. Damon's World War II designs. What this means is

that in the Castle Siege of the 12th Century, a catapult resembles a modern mortar, and when it fires, a whistling sound followed by an explosion results. A crossbow-firing archer resembles a machine gunner, and his firing even sounds like a machine gun!

In the walk-through design-a-fantasy, this aspect is carried to a more ludicrous extreme. The evil wizard is a mortar, an elf skilled with the bow is a machine gun, and a lizardman warrior is a tank. While wargaming requires a willingness to suspend belief and treat "sprites" as troops, the comical aspect herein belies any such attempt.

As has been stated previously, this type of design worked moderately well for World War II scenarios. However, it does not travel well; *Nam* suffered from a sufficient number of flaws as to make any resemblance to Southeast Asian combat a mere coincidence. Similarly, any attempt to simulate other periods of conflict are doomed to failure. Napoleonic warfare was characterized by flanking maneuvers (e.g. Battle of Ulm), cf. Petrie's military histories. *WCS* allows units all-around facing, thereby obviating any simulacrum of Napoleonic warfare; Civil War scenarios often fail for the same reason. Ancient efforts are beyond the ken of this design given the character set and sound effects (are

Hannibal's elephants really making those noises, or did the Carthaginians feed them beans for lunch?). Thus, the all-around "facing" and the ability to only modify fire strength and combat aggressiveness does not compensate for the differences in military strategy and tactics through the ages.

In summary, one must admit that scenarios can be designed at will. This reviewer's hesitation is that design work is detailed and tedious (even after the map is fully plotted out on paper, it will still take c. two hours to plot in); assuming one is willing to expend the time, is a resulting product for the novice/introductory level worth it? Also, certain quirks often frustrate the user-designer; for example, changing map scales can sometimes destroy character set inputs.

Given the low price of *WCS*, if a novice gamer does not yet have a Roger Damon design, then this product can be recommended. However, one must remember — it cannot realistically portray all eras of military strife. In effect, this release is the last gasp from a game system whose time is passing.

[*SSI, Wargame Construction Set*, \$29.95, Roger Damon designer. Rating: **1/2.]

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ATARI BOOKSHELF

By Pamela and Carl Hahn

CRASH COURSE IN MICROCOMPUTERS

In 1984, SAMS revised what was an already popular book into a more up-to-date instructional manual. Having read 1980 first edition, and having recently worked my way through this revised second edition, I can highly recommend this book to anyone wanting a thorough, easy-to-understand introduction to general microcomputer literacy.

Crash Course uses a programmed instructional format in which the material being presented is divided into small numbered segments. Each segment ends with a fill-in-the-blank question which is then answered (No peeking!) at the beginning of the next numbered segment. This format is much easier to read and assimilate than straight textbook-style presentations. In other words, the material is presented in segments small enough to digest while still being complete enough to remain interesting.

Crash Course consists of 16 chapters, or units, followed by an appendix detailing the 8080/8085 instruction set and another appendix with the familiar ASCII table.

Unit 1 covers "Microcomputer Basics." This chapter explains the four main parts of a microcomputer and what they do, gives definitions of such terms as digital computer, microprocessor, microcomputer, CPU, instructions, program, process, and control and lists and explains the basic functions of a computer.

If Unit 2, Binary Data, was the only topic covered in this book, in my opinion it would make Crash Course a worthwhile investment. In this unit, the reader learns the differences between the decimal, hex, octal, and, of course, binary number systems.

I believe I can make the assumption that those of you who are professional programmers, computer engineers, or math Ph.D.'s aren't going to be interested in this book, much less this review, to begin with. The rest of us who haven't cracked a math book in a few years -- complex math is keeping the checkbook balanced -- will benefit from the clear, easy-to-understand examples and explanations presented in this unit. I know until I worked my way through this chapter, converting decimal numbers to binary was a process that I was never quite able to grasp. (Okay, I didn't do my homework.) Crash Course helped me finally comprehend what all those 0's

and 1's grouped together meant. (Not bad for someone who's 100011 years old!)

Computer Memories, How Microprocessors Work, Input/Output Operations, Programming -- with explanations of the programming process while defining the terms algorithm, flow chart, coding, debugging, documentation, emulator, etc., and Programming in the BASIC Language are some of the topics covered in subsequent units.

While the book is a "revised" edition, it was updated two years ago. In computer years that translates to about two centuries of technology evolution. There are statements within the book that will seem dated. Also, depending on your personal computer expertise, parts of the book will be too elementary.

However, if you are looking to increase your overall understanding of computer basics and are looking for an alternative to reading through a dry, textbook-style volume, then I believe you'll find that Crash Course in Microcomputers is just the tutorial you'll need.

-- Pamela Rice Hahn

[*Crash Course in Microcomputers* by Louis E. Frenzel, Jr., Howard K. SAMS and Co., Inc., 4300 West 62nd Street, Indianapolis, IN 46268, ISBN: 0-672-21985-9, \$21.95 / 21985]

1001 THINGS TO DO WITH YOUR ST

Mark Sawisch co-wrote this particular book with Linda Schreiber, a TAB author with several 8-bit titles to her credit. Mark also co-wrote 1001 THINGS TO DO WITH YOUR PERSONAL COMPUTER,WITH YOUR COMMODORE 128,WITH YOUR AMIGA, etc. (The authors even thank APPLE in their acknowledgements!) While Mark has obviously come up with a marketable concept, don't expect any earthshattering revelations when reading this book. In other words, 1001/ST is very light reading.

1001/ST probably will not be that useful for the seasoned home computer user. The novice user, on the other hand, will find all sorts of interesting ideas. For the most part the book only provides brief explanations of possible uses, not how to go about obtaining the desired results.

Topics covered include games and recreation, money-making applications, record keeping uses, AI and the future of PCs, business and financial applications, etc. Also, while the book is indexed, I again ran across a case where I had to dig to turn up one of the topics I was searching for -- MIDI.

I was also disappointed to find that the authors failed to do some simple basic research to at least somewhat customize the book for the ST. For example, on pages 205-207 the book contains a 'generic' BBS listing. It really wouldn't have taken that much probing to, if not compile an exclusively ST listing, at least come up with an ATARI-specific listing. ATARI CORP.'s BBS isn't even listed. (Also, I can't imagine that there are as many 'Pet' BBS's still in operation as the book would have you believe???)

With the negatives out of the way, the book does only cost \$12.95. Cheap entertainment, I suppose. 1001/ST is definitely more of a computer usage and trivia-type stuff book than an educational or reference manual.

-- Pamela Rice Hahn

[TAB BOOKS, INC., Blue Ridge Summit, PA 17214.
ISBN: 0-8306-2776-6]

PROGRAMMER'S REFERENCE GUIDE

For those still programming a model 400 or 800 computer, I have a book for your consideration containing almost 500 pages of information on just about anything you want to know about these 8-bit models.

I first looked in the index for "buffer, INPUT string" and "INPUT, string buffer" and "string, buffer, INPUT" and each time was directed to page 43. That is a good indication there has been a lot of thought given to make this book easy to use. The book lived up to my expectations.

The first few chapters are pretty basic information, such as how to set up your computer, and saving and loading from the program recorder and disk drives. There is a lot of information about the BASIC programming language. Here you will find a good explanation of constants, variables, naming variables, dimensioning string variables and arrays, operations and operators (arithmetic, relational, and logical), and the order of preference for operators. There are tables of commands, statements and functions, and BASIC syntax and applications.

Chapter 4 has everything you need to know about the 8 different screen modes and the 21 screen variations. Once again the information is given in tables that list screen modes, hue, and luminance values, cursor position registers for the different modes, and character and color registers codes for the different modes. There are also tables of the ATASCII character set and ATARI's internal character set.

Chapter 5 discusses Player/Missile Graphics. You'll learn a lot about configuration, bit maps for players and missiles, setting addresses, protecting the bit map, adjusting width and setting colors, POKE values, moving figures and priorities, and collision detection.

Chapter 6 explains I/O operations from the basic CLOAD or LIST "D:" commands to PRINT, PUT, INPUT, and GET. There is a good explanation of the XIO commands and opening and closing channels.

Chapter 7 contains miscellaneous discussions of sound, USR, and passing values to and from a machine language routine as well as screen display lists and structures.

Chapter 8 has a lot of information about the ATARI memory map, including Zero Page RAM, stack RAM, Op System RAM, BASIC ROM, hardware I/O ROM (CTIA/GTIA, POKEY, PIA, AND ANITC), and the Op System ROM.

Chapter 9 explains the 6502 Instruction set and explains what each does inside the computer.

At the end of the book are eight Appendixes, some of which are a recap of items already covered in the book -- a quick reference guide of sorts.

At \$21.95 the book seems to be overpriced, but I know I've spent 3 or 4 times as much to get bits and pieces of what's here, and still didn't get it all (and then couldn't find the information when I wanted it).

The book wasn't published until 1984. If I'd had this much information in 1981, I just might have written that game that was a "must-have".

-- Carl C. Hahn

[*Programmer's Reference Guide for the ATARI 400/800 Computers* by David Heiserman, Howard W. SAMS and Co., Inc., ISBN: 0-672-22277-9]

THE FIRST XLENT WORD PROCESSOR

Version 2.1 ... a Powerful Tool at a Reasonable Price

Review by Len Poggiali

[An earlier version of this program was reviewed quite favorably by Don Elmore in the September 1986 issue. This program is so full of features that readers would do well to refer back to Mr. Elmore's article in order to supplement the information in my review. -LP]

XLENT Software's un-copy protected *THE FIRST XLENT WORD PROCESSOR* (Version 2.1) is perhaps the best reason I know of for not trading my 8-bit Atari in for an ST or for some other brand of computer. That in this time of poor 8-bit support from most third-party software companies, programmer David Castell would expend the creative energy and technical know-how necessary for producing such a work, and XLENT would back such an endeavor is a credit both to the creator and to the company.

Although I own and regularly use two other very fine Atari word processors (*ATARIWRITER PLUS* and *SPEEDSCRIPT*), as soon as I first read ads and reviews for *FXWP* (the company's acronym), I knew that I would have to add this word processor to my collection.

Part of my interest lay in *FXWP*'s use of icons for such functions as print, search and replace, copy, disk utilities (save, load, etc.), and cut and paste. This would eliminate the need for my family members having to learn as many commands as required with other word processors before they could feel comfortable writing. It was important for me, however, to be able to access many of these features with one keystroke; *FXWP* provides such alternatives for most of the commonly used functions.

Another notable feature was an 80-column preview whose operation would not cease (as does *ATARIWRITER PLUS*'s) if I had used up all, or nearly all, of the 29,000 or so characters allotted for text. Nor would it be difficult to comprehend and equally difficult to stop (as with *SPEEDSCRIPT*'s). *FXWP*'s preview screen is quite easy to control, and attractive to look at (if a bit difficult to read).

Multiple windows (each allowing more memory for my 800XL than the total my *ATARIWRITER PLUS* does) were particularly appealing to me. Normally when I am writing short articles, reviews, and such, I enjoy working on two at the same time. That way, whenever I become tired of one, I can switch to the other, which allows me to

keep writing without growing stale. *FXWP*'s full-screen windows are easy to use, and allow for moving text from one to the other, and loading and saving each independently of the other.

The ability to insert a file or part of a file within a second file is something also lacking in my other word processors, but which thankfully is present in *FXWP*. Not only do I often write two articles concurrently, but I also combine bits and pieces of writings from time to time. Being able to load File B into the heart of File A without losing the end of A is for me a feature worth the price of the program. *FXWP* also allows for any part of one's document to be saved to disk.

Using a joystick (or keyboard) for cursor movement was another attractive option. Anyone not wishing to learn a host of commands can move from character-to-character, word-to-word, and so on with no more difficulty than it takes to move Pac-Man around a maze of dots. This feature might make word processing more appealing to arcade gamers.

FXWP contains an unconventional wordwrap feature. Not only do one's words wrap, as with other word processors, but if one wishes, they will "unwrap" also. One of my major difficulties using other 8-bit word processors (all 40-column products) is lining up columns. With *FXWP*'s "Wordwrap Off" feature, there are no "dummy" spaces so that my columns can be lined up perfectly the first time.

Those then are the major reasons why I purchased *FXWP*. There are, however, another couple of dozen equally excellent features which make this a truly unique and valuable item. These include the following: a special version for 400/800 computers; a easy-to-use printer driver construction program; text editor commands to change background colors, text luminances, and key repeat and joystick rates; word and disk sector counting; the ability to enter and edit the cut-and-paste buffer; a host of tab commands, including one which remembers up to five points in my document, and with a keystroke will take me from one to the other; numerous delete commands; very sophisticated -- but easy to use -- formatting, margin, spacing, paging, alignment, and chaining file directives; double-column printing; a mailmerge feature (compatible with

SYNFILE+); help screens; a print spooler and ram disk capability for the 130XE; and the ability to integrate special characters, many other programs (*MEGAFONT II+*, *B/GRAFH*, etc.), and pictures into documents. This last feature allows me to load pictures of my own or from my copy of *MOVIE MAKER* (files from many other programs also may be loaded); add text; re-save them as 62-sector, uncompressed files compatible with *FXWP*; print them to disk; and incorporate these illustrations into my word processing text.

There were a number of relatively minor flaws and oversights in Version 1.0; many of these have been corrected or modified in Version 2.1. The most annoying for me was the program's former inability to retain insert mode and cursor position when returning from the printing mode. I use the print-to-screen function a great deal, so this new version is a blessing if only for that revision. Other changes include an option for saving to disk screen colors, joystick and keyboard speed, insert mode, tabs, word wrap around, and cursor shape; space for more than forty file names in the Disk Directory option; the ability to include a carriage return as part of the search and replace string; and being able to print directly from the text buffer.

A very small (one screen) cut-and-paste buffer remains the only serious flaw in this otherwise nearly perfect program. Linda Barnes at XLENT Software has assured me that all suggestions for improvements are referred to the author, and that he is very responsive to them. Judging from the amount of improvements made between the 1.0 and 2.1 versions of *FXWP*, I am certain Mr. Castell eventually will find a way to deal successfully with the buffer issue.

Incidentally, owners of earlier versions of *FXWP* may receive updates for \$5 (they must include the serial number from their original), or for \$3 if they return the original disk.

The people at XLENT software feel that they have given their *FXWP* owners "...a powerful tool at a reasonable price." Based on my experiences with *THE FIRST XLENT WORD PROCESSOR*, I see no reason to challenge that statement. Apparently many others agree, as *FXWP* is XLENT's best selling 8-bit item.

XLENT Software continues to be a company providing strong support for Atari 8-bits. Their upcoming *CROSS-TOWN CRAZY EIGHTS*, based on the popular card game, will be an over-the-modem game as well as a stand-alone. An ST version also is being prepared.

[*THE FIRST XLENT WORD PROCESSOR* -- Version 2.1, XLENT SOFTWARE, P.O. Box 5228, Springfield, VA 22150, (703) 644-8881, 48K/64K Disk.]

RAMDISKS FOR YOUR 320 XE

By Alan Friedman

After successfully adding a new 320K upgrade to my 130XE, I faced a whole new problem. What to do with all this power?

There are a lot of ramdisk programs on the 256XL upgrade public domain disk, but due to a difference in how the 256XL upgrade accesses the ram, these programs won't work on the 130XE upgrade.

Of course, Sparta DOS will configure the additional ram into a ramdisk, but I wanted to find a program to do it cheaply (Sparta DOS is \$40) and one that would work with DOS 2.0S and 2.5. I figured the cost of the time on CompuServe would be a good investment, and it was. Doing a search in the Utility section of the Atari 8-bit library I found two XE ramdisk programs. They were *RAMDSK* and *SMARTR.230*. Both of these programs have DOC files that are fairly thorough.

RAMDSK configures the additional ram into two 707-sector ramdisks. They are automatically set up as D3 and D4. They are not initialized and before being used must be initialized through DOS or an XIO command. I tried a copy of programs with these ramdisks. I set up the *AMISXM10* bulletin board with the ramdisk initialized and everything went fine. I did find several programs that did not like the change in the OS and therefore tried the other ramdisk program, *SMARTR.230*.

SMARTR.230 only created one 707-sector ramdisk and only worked with DOS 2.0S, however I was able to use *KYAN PASCAL* with this system. This only increased the ramdisk by 230 sectors over the original 130k ramdisk, but this gave me the additional room I needed to keep *DUP.SYS* on the ramdisk and to transfer the rest of the *RIX* commands for increased speed of operation.

Since this is a fairly new upgrade I am sure it won't be long before someone comes up with a program that uses all the ram as a ramdisk and allows you to decide what drive you want the ramdisk to become and that will be DOS 2.5 compatible.

With the promised arrival of the double sided double density disk drive from Atari just around the corner, this may become the most useful upgrade for the XE to come down the pike so far.

PIECES OF EIGHT

By Len Paggiali

IF IT WEREN'T FOR...

As an Atari owner my computer-related disappointments have been few and far between. There have been three, however, which have left me with at least a mildly bitter taste.

One of them came after I was certain I had convinced one of my best friends and his spouse to purchase a 130XE, a 1050 disk drive and a 1027 printer at Sears for some ridiculously low price. Not only had the couple asked to have the hardware held by Sears until they could begin payments, but I was already preparing to make them copies of all my public domain software. Then tragedy struck.

At dinner one holiday, another of their friends convinced them that they would be better off buying his used Apple-compatible Franklin computer with two built-in drives, a green-screen monitor, an Okidata 82 printer, and scads of software for an equally ridiculously low figure. My friends, I am sorry to say, went with the Franklin.

Their action was disappointing to me for a number of reasons. As a satisfied Atari owner, I was sorry to see Atari lose a sale and, more importantly, to see my friends buy an inferior product merely because it was Apple-compatible. I also experienced a personal disappointment because it would have been fun introducing them to their 8-bit Atari, making discoveries together, and swapping programs.

The Atari XM-301 Modem was my second disappointment. For better than a year I had debated with myself over whether to expand my horizons beyond my computer desk by using the telephone lines as a means of communicating computer-to-computer. The notion sounded not only expensive but confusing. Finally, after realizing that there were a number of Atari-specific bulletin boards in my area requiring only a local phone call, and reading about how simple the XM-301 was to use, I took the leap.

For the first few days after receiving my 301 mail order from a very reliable firm, I touched base with every Atari BBS and a number of non-Atari boards in my county. I uploaded, downloaded, spent hour after hour conversing with man or machine. Not only was I making it impossible for any other member of my family to communicate with the world beyond our doorstep and successfully keeping pesky salespeople from bothering me with telephone solicitations, but I was having a great deal of fun using my modem.

Right in the middle of that initial period of exhilaration, my 301 began to display a peculiar tendency to hang up prematurely on whomever I was calling. At first I blamed the bulletin boards, feeling that perhaps I had overstayed my welcome, or that the boards were malfunctioning. The number of recurrences, however, convinced me that the problem was not in the boards, but in my XM-301.

After the mail order company very nicely replaced my defective 301 with a new model, I settled in for a week or two of blissful telecomputing. I say a week or two because during the second week my modem stopped making contact with whatever or whomever I called. The modem would dial the number, and the other party would be reached, but I never would be able to actually communicate with the other party.

By now the mail order firm was so tired of my modem and me, that they informed me none-too-politely to mail it back to Atari. I did so. Within four weeks I had my third modem attached to my computer, and hope was once again springing eternal. Unfortunately, hope was all that was springing. The modem still was not making contact. I mailed this one back to Atari with a letter stating the problem and asking for any type of refund possible (credit would have been fine). Atari chose instead to return the modem. In order to get it out of my sight, I loaned it to a former student; I hope he never returns it.

My third, and perhaps most bitter, disappointment is an ongoing one. Quite simply it is caused by the lack of support Atari 8-bits receive both from software developers and in-house. As a high school teacher, I have seen my share of other 8-bit computers, and this experience has left me assured that Atari 8-bits are superior machines. However, even superior machines cannot show their stuff if they and their owners are denied state-of-the-art 8-bit software. Third-party suppliers are not to blame necessarily. Dealing with a company which is only marginally supportive of its own 8-bit line must not give the EPYXs and Broderbunds of this business a great deal of confidence.

Coming out with 80-column interface modules and new game/computer machines is all well and good, but a 256 or 512K 8-bit would be a great deal more assuring. The statement by an Atari executive that, if XE computers were improved any more, they would cost as much as monochrome

(Continued on page 29)

ACE OF ACES

The Thrill of Flying and the Agony of Defeat

Review by Paul M. Menges

Ace of Aces is a complex and challenging World War II combat flight simulation/adventure worthy of all gamers who enjoy the thrill of flying and the agony of defeat. Equipped with a Royal Air Force Mosquito fighter/bomber, you select missions against German U-boats preparing to attack in the North Atlantic or against trains transporting POWs to Berlin. As you attempt your noble enterprise, enemy fighters do their best to drop your Mosquito into the English Channel! Points are awarded for successful completion of the missions as well as minor feats enroute to mission accomplishment, i.e., downing enemy fighters. Points are deducted for hitting train cars containing POWs.

Aces allows (requires) you to plan your mission in order to be successful. A "hint" points out that when you intend to engage enemy fighters in combat, you might select more rockets and cannon loads than heavier bombs, which would make your Mosquito slower and less maneuverable. Once the mission is selected, you receive an intelligence report detailing weather conditions as well as enemy strengths in the mission operational area. This information should also help you with your choice of armaments.

Once weapons are loaded, you find that you are already airborne and confronted with the challenge of remaining aloft ... and alive! It's not enough to plan the mission and shoot enemy aircraft. This simulation requires the same constant attention to detail (and controls!) that a real aircraft requires, in order to return safely to the RAF aerodrome.

The initial orientation screen is from the Pilot's position looking out the front wind-screen. This position provides the basic directional information and permits direction control. Other views from which other aircraft functions are controlled are those of the Navigator, the Engineer, and the Bombadier, each of which is obtained by moving the joystick or via keyboard control.

The Navigator's view includes a map indicating the target area and homebase, as well as information received during the intelligence report. The Bombadier's view reveals a status report of remaining weaponry, as well as the view from the open bomb bay door. The Engineer's view contains other basic controls absolutely necessary for maintaining flight, such as throttle and booster controls, fuel gauge, and even a fire

extinguisher for dousing engine fires! But exercise caution in extinguishing those fires; too much water will kill the engine too!

This novice gamer (and my son, Paul David) were forced to use all our abilities and resourcefulness, not just in combat but primarily in the area of simply learning to fly and stay aloft (I wonder if the patron saint of aviators is related to Icarus?). Once you've mastered the controls, including the technique of switching views screens in order to reach various controls necessary for flight, the game becomes much more interesting. In this regard, it seemed the shift of screens was a little slow, especially when you are someone else's bullseye and the throttle is a screen shift away. However, it is a minor annoyance not to be able to engage the throttle or other functions, from any view through direct keyboard input when danger threatens.

All in all, *Ace of Aces* is an adventure that most experienced gamers, particularly those interested in flying simulations, can enjoy.

PIECES OF EIGHT (continued)

520STs might be true, but is it reason enough for not producing such machines? Those 8-bit owners who love their computers, have thousands invested in hardware and software, and know their word processors, data bases, and games like they do family members do not see Atari 8-bits as no-growth, ultimately disposable items. After all, are not IIGSs nearly as expensive as monochrome Macs? Is Apple suggesting, through its lack of support for the 8-bit branch of its computer line, that all Apple II owners should throw in the towel and purchase Macs, the way that Atari is telling (albeit, indirectly through lack of 8-bit hardware upward expansion) its 8-bit owners? Of course not — and that is why Apple IIs will continue to sell long after Atari 8-bits have become history (and only that).

Those then are my three disappointments in owning an Atari computer. Now that other members of my family are using our 800XL more and more, we have begun discussing the purchase of a second computer. As an educator with ready supplies of software from my school and numerous friends, my head is telling me to get a IIGS. My heart, however, is telling me to stay with Atari, particularly the 8-bit line. We shall see which wins out.

PD GEMS FOR THE ATARI 8-BIT

by Alan Friedman

[Here's a brief look at some of the new PD offerings in the Novatari XL/XE library this month. One is a two-sided graphics adventure game disk the other a font editing utility disk.]

Quest For Power. In Quest you are at the entrance to Camelot, but before you can enter you must obtain the power. There are three wise men. Two are free, one charges a fee, one is north, one is south and one requires a key.

As you roam around the kingdom seeking these wise men you collect bags of gold which you use to buy goods or to pay the wise man who charges a fee. It isn't all collecting gold and trading, because as you enter different areas you will find enemies to battle: the snake, Goliath, the devil, and a ghost. When you make contact with a creature you have two choices: flee or fight. If you flee, you are returned to the starting point of the game. If you fight, you are shown your power and the enemy's power. You then press the fire button to engage and then again to stop the random number generator to determine who is winning the fight or who has won the battle. If you lose, the game is over and you are asked if you would like to be reincarnated. If you win, your power is increased.

I have spent several hours so far playing "Quest for Power" and have only found two of the wise men and defeated the snake once. All of this and I have spent the majority of my time in the northern part of the kingdom. With the ability to save games in progress, I may have to take a more conservative approach and spend more time finding the three virtues that are needed to get the power that is necessary to solve the game.

Beneath the Pyramid is similar to Quest except you start out with 2000 pieces of gold and purchase supplies at the beginning. There are 19 different items you can purchase ranging from a gun (don't forget to buy the bullets) to a canary. I purchased the brandy and after getting killed very quickly could have used it at the keyboard. The one item I have used the most is the crowbar. Seems like I am always having a statue fall on me and the only way to get it off so far has been to use the crowbar.

As you go through the chambers of the pyramid, you uncover clues to help you find the golden statue of a cat that you are seeking. Once again there are dangerous creatures and

spirits to avoid and battle as you so choose.

Touch Edit. Ever wonder how Locas Films did the great graphics on the *Koronis Rift* game? Well, the secret is out. With *Touch Edit*, not only does Boyd Gafford provide a superb font and player-missile graphics editor, but he also has a demo of the *Koronis Rift* fonts. Yes, that's right, all of the control console and scenery graphics in *Koronis Rift* are done with fonts. Novatari Utility Disk 18, *Touch Edit*, comes complete with demos and eight pages of documentation.

This is a two-sided disk. The font editor is on side B and a series of Basic utilities are on side A. Booting side A, you are presented with a menu of options: convert a font created with *Touch Edit* into a basic program; create a BASIC program to replace the standard Atari font; create a BASIC program to load any player set; convert any existing font you have into a file that can be used by *Touch Edit*; view a demo of both P/M graphics and fonts; exit to DOS 2.0S; and, finally, print out the instructions.

The fonts demo is a display screen from *Koronis Rift*. Once again I must say how impressive this is. If you want to play with this later the font files are on the disk.

Once you have run the demos and read the instructions, you are ready to start editing and using new fonts. Turn the disk over to side B and boot without basic. You can use the font editor with a joystick, mouse, paddle or touchtablet. However, to use the custom editor you need to use a joystick.

You can do just about everything imaginable to fonts and graphics using this program. You can mirror a letter(or P/M player), shift it one space right or left, move it one space up or down, rotate it 90 degrees, change its color and more. *Touch Edit* takes all the hassle out of creating custom fonts and player/missile graphics. It will greatly speed up the creation of new fonts and writing graphics programs.

Included on the A side of the disk are several fonts and player graphics you can load to look at, alter, or use in your own programs. I would suggest you print out a copy of the disk directory to see what is available. these fonts and player graphics are loaded through the disk I/O option in the editor.

NOVATARI XL/XE LIBRARY

Trying to get ready for Atarifest in October is exciting. We keep finding more 8 bit software from user groups around the country. If you are in a user group outside the Washington Metro area with public domain software to share please contact Roy Brooks, 4020 Travis Pkwy, Annandale, VA 22003. Last CN issue we announced Telecommunications #5 as a single disk but it is really two disks (one program and one double sided documentation disk).

This month we are introducing 5 new disk titles. In the games section we have three titles for three disks #14 Super Quiz A & B has the quiz program on the front side of disk A with three other disk sides of trivia questions under six categories. The other games disk #15 has Quest for Power on side A and Beneath the Pyramid on Side B. Both of these are high quality graphic adventures. Charlie Parker's Animated Stories on Education #5 are titled The Noisy Giant and Caveman Joe. These stories captivated my 4 year old niece and middle elementary level readers would enjoy reading both. Al Freidman has contributed Language disk #11 Pascal Sampler. Al includes runtime routines and source code listings on several practical programs for listing words, making cloze procedures, doing Fog readability ratings and printing out 40/80 column text files. The last disk this issue is Demo #6 Jim Stevenson Jr.'s VIZPICS. Jim has done scenes from The Dark Crystal story with Visualizer by Tim Kilby. VIZPICS is another conversion from the former NPX(Novatari Program Exchange).

Prices for WAAE members and CURRENT NOTES subscribers is \$3/disk plus \$1 for postage and handling for every 3 disks. Otherwise, cost is a flat \$5/disk(includes postage and handling). Send checks, payable to NOVATARI, to Alan Friedman, 5951 Heritage Square Drive, Burke, VA 22015.

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- 10 Turbo Basic/Compiler
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- 15 Print Shop Icons 1
- 16 Textpro 1.1
- 17 Print Shop Icons 2
- 18 Touch Edit

DEMO DISKS

- 1 Animation Demos
- 2 Moviemaker "Clips"
- 3 Heavy Metal Art
- 4 Graphic Picture Show
- 5 Desktop DOS and Demos
- 6*VizPics

RELAX AND ENJOY

By Joe Kuffner, (c) 1987

PROHIBITION and SEA COMBAT

Not long ago, when a new game was released into the marketplace, it was generally amid much ballyhoo and hype, usually demonstrating that more dollars had been spent on advertising than on programming. We have the great fortune of having products come out of Europe that sneak into the public eye from software libraries of travellers afar without so much as a whisper of introduction. I say "fortune" because the best way to judge a product is to have an unbiased first look at a program. If it survives this first "meeting", there is a good chance that it is a strong contender for your software dollars.

One such program is *PROHIBITION*, from a French producer, Infogrames which is headlined in this month's column. Also, for our PD-of-the-Month selection, I've chosen that ever computerized classic *SHIP COMBAT* (a.k.a. *BATTLESHIP* computer version 2,343,321). So, put on your life-jacket, pour your favorite 'shine down the kitchen sink and slide into your computer rest-station (vice workstation). It's time to Relax and Enjoy...

PROHIBITION

Amendment XVIII to The Constitution, proposed by Congress Dec. 18, 1917 and completed ratification on Jan. 16, 1919 provided, "...the manufacture, sale, or transportation of intoxicating liquors ... for beverage purposes is hereby prohibited." Thus, leading to perhaps the largest underground industry, providing the largest source of revenue for organized crime of the era. The sale of prohibited beer and "whiskey" not only yielded large profits but arguably, was the cause of crime-related violence, the likes of which America had never seen.

The scene is set for you to take the role, perhaps in the shadow of legendary Elliot Ness, to defend against the gangs holed out in the abandoned warehouses, slums and sewers of 1920's America. From your unique vantage at street level, you roam the two-dimensional city searching, without err, for your victim. Its shoot or be shot!

The tri-color backdrop for the city, in low res provides the right combination of bare mood and visual contrast to "spot" the tommy-gunned gangsters and blast them in their tracks. But don't waste that fair maiden they've taken as hostage (unless your sadistic instinct overcomes you!). Having shot the villain in the 3 to 5

seconds available, its on to search for the next, hiding in the nooks and crannies of the cityscape.

After loading the program, you hear some digitized french verbage (a warning perhaps?) and are thrust into the title page while the loading continues. You note the fine graphics and startling contrast of red on grey and white and pop, its decision time. Mouse or keyboard control. Choose mouse. Keyboard is nothing short of certain slaughter (of the good guy!). You also note the high scores to date. You don't see Elliot listed. You've got a chance.

On-screen circular cross-hairs provide you the sights. A loaded revolver, with unlimited ammunition, provides the means. Truth, justice et al provide the reason. You scroll the screen by moving the mouse, desperately looking for your enemy. You spot him. You jam the left mouse button. Shots ring out from your pistol. The timer hits zero. You're too late. You hear your own scream as the bullet pierces your chest. You're down for the count. Only two lives left. Next time you'll have to be quicker on the draw, or use some of your 10 units per round of "right mouse button" defense. 10 "units" of wall are available, per level, for you to duck behind if you're having difficulty nailing the target.

As you progress to the higher levels, the range that you will have to cover with your sights increases. Certain of the monochrome, stationary targets, allow you 5 seconds to find them. Others, in precarious or dangerous proximity allow but 3 seconds for you to find them! After a few games, the habits of the foe will assist you in more readily locating them.

All of this is going on with digitized sound effects enhancing the shooting and groaning and in some cases screaming. The pace of the game and graphics quality combined with superb quality enhancements make this game a sure winner. Minor flaws include a lack of game save feature, although high scores are recorded. Another is the annoying inaccuracy of the mouse sights in certain situations (although this may accurately reflect the quality of firearms of the era). The scoring, too, is a bit confusing but it's safe to assume that the longer you play, the higher your dollar score.

There are only a couple of strategy tips that I can offer. After all, I've only attained a

high of \$41,720, after shooting my way through one intermission and nailing that nearly invisible cad in the distant steel girders! Basically, keep your sights in the center of the immediate range, locate the direction assist arrows, then scan up/down. As soon as you see your opponent, start blasting (remember unlimited ammo). If you miss, hit that right mouse. The second strategy tip is to mentally map potential locations. You'll find that you'll naturally "zoom" in on your target after sizing up the potential locations. Finally, don't panic. A cool head saves lives!

PROHIBITION is a simple pop-up target game with slick playability using all of the features of the ST. Top-notch player interface with the mouse makes for solid and addicting entertainment, albeit frustrating. I highly recommend this fine example of European programming be added to your software library. After all, this is the only prohibition we're sure to enjoy!

PD-OF-THE-MONTH

There are few games that have been translated into more computer languages, and as many versions for each language or computer as the

warship game of games - *BATTLESHIP*. *SHIP COMBAT* is the 3rd public domain variation that I've seen for the ST, and by far the best. Programmed by Marvin Jenkins, of Texas, this little jewel runs in low res only (i.e. color monitors) and is GEM integrated with full mouse control of ship placement as well as attack shots.

The graphic representations of the various ships lift the otherwise average graphics into the good range. Also, the addition of sound effects makes the game above par. But, that special item that makes it a must-have, is the swiftness and relative ease of playing a game that normally drags from tedious "overhead" and "paper management". If you've ever played *BATTLESHIP*, you must have *SHIP COMBAT*. Help in playing is provided in the program. It is available from your club's library or BBS.

If you have programmed, or come across, a public domain game that you feel is worthy of more attention, and could be enjoyed by others, don't hesitate to upload it to your local BBS or send it to your club's disk librarian. National exposure could be right 'round the corner for its author!

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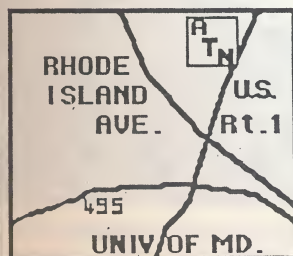
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ADVENTURES IN THE MAGIC SACDOM

By Jeff Greenblatt

SOUND FOR YOUR ST-MAC
AND OTHER HAPPENINGS

Sound for your ST-MAC, well sort of!! Yes, it is now possible to produce some sound on your Magic-Sac-equipped ST. The program that produces sound is *MACBEEP*. Oddly enough, this program is the only Macintosh software I know of that works only on the ST. It won't work on a Mac. The best part about it is that it is Public Domain.

MACBEEP is available in the ST Library of GENIE as file #3709. If you don't have access to GENIE, it's available from Current Notes on Disk Mlc which also contains Finder 5.3/System 3.2 and a few other useful utilities.

MACBEEP produces just that, a BEEP, similar to the beep (or bell) you hear from the ST when it gives you a warning sound. You won't hear the sound when you run most Mac application software unless the application you are running wants your attention. So far, I have found that it works with *TERMMWORKS* when you finish uploading or downloading, and it also appears to work with most applications which request whether you want to save your file before quitting or loading in another file, such as *MACWRITE*. The program that really wants a beep is *THUNDER* for the Mac, and it works perfectly with it. Every time *THUNDER* finds a word that is not in its dictionaries the BEEP warns you of this. It's a perfect use of *MACBEEP*!!

MACBEEP is an INIT file. INIT files, if placed in the System Folder of your startup (boot) disk, automatically load in when you boot the Mac up. INIT files only work with Finder 5.X/System 3.X startup disks. That is why it is on disk Mlc in the *CURRENT NOTES* library. There is a way of making *MACBEEP* work with Finder 4.1, System 2.0 by surgically cutting and pasting it into the System file. Here is how to do it.

Let's say I want to install *MACBEEP* into the System 2.0 file of a disk entitled MacDraw. In order to install *MACBEEP* into the System 2.0 file you will need a resource editor such as *ResEDIT*. If you don't have *ResEDIT*, it's available on *CURRENT NOTES* library disk #M9: Utility Disk No. 2.

Launch *ResEDIT* and find the *MACBEEP* file in the window and double click on it. Another window will open and it will have three resources in it. Double click on the INIT resource and its own window will open. Now click once on "INIT ECOFIN Beep ID=5" to highlight it as shown in Figure 1.

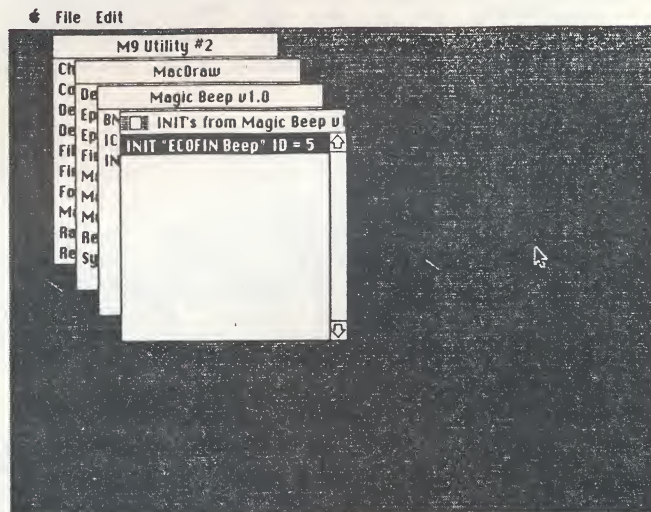


Figure 1: INIT ECOFIN Beep ID=5 Highlighted.

Now pull down the EDIT menu and COPY it to the clipboard. Now close the windows down until the *MACDRAW* resource window is displayed. Double click on the System file and its own window will be displayed. Find the INIT resource by scrolling the slide bar if necessary and double click on it. A window entitled "INIT's from System" will be displayed. Now pull down the EDIT menu and PASTE the clipboard into the window. If you have done this correctly, "INIT ECOFIN Beep ID=5" will appear as the last INIT resource in the window as illustrated in Fig. 2.

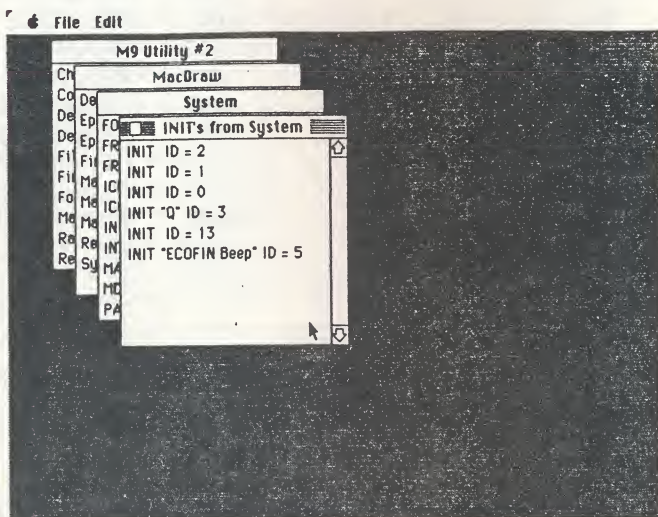


Figure 2: INIT ECOFIN Beep ID=5 installed in System

Now close down the windows and as the System window is closed, a dialog box will appear which will request whether you want to save "SYSTEM" before closing? Click on YES and the modified System file will be saved to the *MACDRAW* disk.

At this point you have the choice of quitting ResED or you can eject the *MACDRAW* disk by closing its window and PASTE the clipboard (its still there) into another System file by insert a new disk into the drive. Just follow the same procedure as before by opening the System file for each disk you want to install *MACBEEP* into.

To test *MACBEEP*, power down the computer and boot up with your modified disk. Turn the volume up on the monitor, pull down the apple menu bar and open the CONTROL PANEL. Now move the sound bar to any location, it should BEEP. The volume of the beep is not controlled by the CONTROL PANEL. Try sliding the sound bar all that way to zero; you will still here the beep at the same volume as before.

If all this sounds (pun) a bit complicated, it really is not. The whole process of copying and pasting takes less than five minutes to accomplish. *MACBEEP* doesn't have to be on every disk you own. As a matter of fact, as long as you boot up with a disk with *MACBEEP* on it, it will not be removed even if you switch over to another Finder/System by launching an application on another disk.

Other Happenings

By the time you read this article you should have received a newsletter from Data Pacific announcing version 4.52 of the Magic Sac and the Translator. I say, should have, because if you didn't send in your registration card that came with the Sac, you won't get a newsletter.

The reason I am making such a big deal about this is that until September 30th, you would have been able to order a Translator directly from Data Pacific at the wholesale price of \$224.95, the same price it will be sold to your local Atari Dealer. After that date, the cost will be the retail price of \$279.95. If there was ever a reason to send in a registration card, this is the classic case for doing so. For those of you who don't know what the Translator is, it's a device that turns your ST disk drive into a Macintosh drive with the ability to read, write and format Macintosh diskettes.

Speaking of the Translator, the answer is no, I still don't have one; at least not as of September 12th as I write this article. Maybe next month!! DAVE???? If you want to see a Translator in action, come to the Atarifest. The Sterling Chapter of Novatari, of which I am a member, will be hosting the Magic Sac room. Dave

Small has agreed to attend Atarifest and join me in the Magic Sac room. We will have a least three Magic Sac equipped machines up and running, and one will be running off a Hard Drive. The Magic Sac room will be open on Saturday, October 24th only, so mark it down on your calendar.

As mentioned earlier, version 4.52 of the Magic Sac software is now available. "What happened to versions 4.5 and 4.51?", you say! Well, they both were issued for beta testing to produce version 4.52.

Version 4.52 has been totally revised as compared to its predecessor, version 4.36. Data Pacific is charging \$20 for version 4.52 which includes a 60+ page typeset manual. The only way to obtain this version is through Data Pacific or from your Dealer if you purchase a new Sac (all new Sacs will be shipped with version 4.52). In my opinion, this version is well worth the \$20 investment considering all the new features offered by it. For a preview of the opening page of version 4.52 see figure 3 (version 4.51 shown for illustration purposes only). For a description of the new features version 4.52 offers, see last month's issue of CURRENT NOTES.

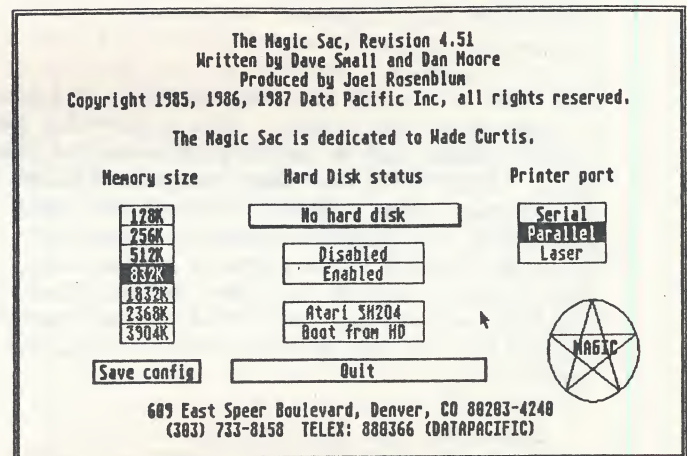


Figure 3: Opening Page of Version 4.52

Speaking of last month's issue and offers, since I don't have a hard disk, Norm Walker of Cleburne, Texas picked up my offer to include a hands on report of how well version 4.52 performs using a hard disk. See his accompanying article entitled "Driving in the Fast Lane with the Sac".

New Library Disks

This month, six new library disks have been added to the CURRENT NOTES library.

Disk #M28 contains RED RYDER 7.0. Just by accident, a friend of mine came across this older version of RED RYDER and it works with the Magic

Sac. While it does not have all the features of the latest version, at least it works with the Sac. The newer versions try to access the serial chip of the Mac and crash the Sac. This version, although older, is still superior to *Freeterm* or *Termworks* and it even supports Kermit for whole disk transfers. Additionally, I have included a modified System file on the disk that has a built-in 350K RAMDISK. Just use the disk as your boot (startup) disk and you will automatically get the RAMDISK on the desktop. If you don't want the RAMDISK, just write protect the disk on boot up. If you use the RAMDISK for uploading or downloading, your transfer speed will increase by as much as 20%. Save time and \$\$\$\$ on GENIE and other information services.

Disk #M29, *PCS Player No.2*, contains the PD Pinball Construction Set player and six new game template files. Incidentally, each game template is made up of two files, one of which is in *MACPAINT* format. So, if you wish to revise the screen image of each game, use *MACPAINT* to edit it and save it back as the same file name. All of the *MACPAINT* files on the disk are labelled with MP file extensions.

Disk #M30, *Games No.8*, contains three new very large, fun programs. *BOWL-A-RAMA* needs no explanation although it's not that easy to get a strike or a spare. *MACTREK* is the highlight of this disk. It's the Mac version of the old game of Startrek of years back. This program has good visual effects and is fun to play, over and over again. *SHOTS* is a very familiar game, similar to an old game called, *GUNNER*. It's a two-player game where each player controls a cannon and tries to blow the other player's cannon apart. The difficult part of this game is that the hills separating each player are very steep and uneven and you have to contend with wind, clouds, and birds.

Disk #M31, *The BLACK WIZARD*, is another graphic/text adventure game created with the World Builder program. This one is real tough and will provide many hours of frustration for you adventure game masochists out there. I seem to be getting more and more calls for adventure games and fonts for the CURRENT NOTES library.

Disk #M32, *Fonts No.4*, contains eight new fonts by popular request. The highlight of this disk is Palencia font. This font produces superior print quality on a dot matrix printer and comes with its own installer; it's shareware. You can not use Font/DA Mover to install this font. This font comes in a full range up to 48 point. Other fonts on the disk include Canberra 12-24, Chicago 18-24, Humanistic 18-36-48, Music 9-10-14-18-24 plus instructions, New Dali 24, Palo Alto 10-20, and Pioneer Shadow 36. As usual, I also included two really useful utilities on the disk related to fonts; Font/DA

Sorter and Font Tester. With Font/DA Sorter you can move them around so that they appear in different order. One major benefit of this utility is that some applications don't let you use all the fonts installed in the system. With this utility you can get to use all of them by changing the order of fonts.

Disk #M33, *CLIP ART No.1*, has been added to the library by popular request. The disk contains nine clip art files for cutting and pasting into other documents. Also included on the disk is *VIEWPAINT* to quickly sort through the files.

Next Month

Next month I intend to have a hands on report of how well the Translator works. I will also provide a compatibility list of over 100 commercial software products that work or don't work with version 4.52 of the Magic Sac.

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DRIVING IN THE FAST LANE WITH THE SAC - VERSION 4.51

by Norman Walker

The menu screen on Magic Sac 4.51 beta has several new option buttons. Included in these are selectable memory size (up to 3,904K for the new machines), a save configuration button, default to a parallel printer, a cancel button (with random messages), and a hard disk dialog box.

The hard disk dialog box gives you the option of enabling or disabling the hard disk. There is also a button to select whether you wish to use an Atari drive or a third party drive because the software requirements are different. Once configured, if a System and Finder are residing on the hard disk, the system can be booted directly from the hard disk.

Setting Up The HD Partition

To begin the set-up, you must take away one of the hard drive partitions from TOS (it will no longer be assigned a drive number). Due to software limitations in the Atari HD, the Magic partition(s) MUST be the LAST partition(s). Data Pacific recommends 3-Meg partitions with a 5-Meg maximum. I use a 5-Meg with no problems.

Run the program MAGICHD.PRG. It will ask you which SCSI and LUN devices to use. If you don't know, just leave it at 0 and 0 (the default). This works for Atari and Supra drives. It will then show you your present partition mapping. Click on the partition(s) you want to assign to the Magic Sac and they will turn black. When the partitions have been selected, click the OK button. If you're not sure about it you can still chicken out: if you're satisfied it's the way you want it then click OK again and sit back while it reformats those sectors into Magic format. When this is finished, you will need to reboot because there's no other way to tell TOS it no longer has access to the (now) Magic partition. When you reboot, you should not have access to the newly formatted partition. The icon will probably still be there, but if you double click on it it will say "No Such Drive".

Using The Magic HD Partition

Now boot the IMAGIC45.PRG. It will tell you that you have a Hard disk connected and ask you if you would like to enable it. Click on "enable". It will also ask you if you would like to boot from it. You can't yet because there isn't a System and Finder on it, so go ahead and start up the normal way from the floppy.

When you get to the Finder, press SHIFT-F3. It works just like F1 and F2 with the floppies except you must press SHIFT along with the F3. When you press SHIFT-F3, it thinks you just inserted a HUGE floppy disk and should show an icon for the disk. YOU MUST EJECT A HARD DISK BEFORE SHUTDOWN! There is a warning on the startup screen to emphasize this. Just using SHUT DOWN doesn't work.

Once you have the hard drive "inserted" (by pressing SHIFT-F3), you can then copy a System and Finder to it. After you have done this, EJECT the hard disk (as well as any other disks) and power down. Then, reboot, but this time select "Boot From HD" from the menu.

When it comes up (and it will do so very quickly the first time), use the new disk just as you would any other "5 Meg floppy". From here on in, it's no different from normally using the Magic Sac except for a few advantages as seen in Table 1. Disk IO has been improved by 100 to 500 percent depending on the operation and the particular program in use. Other advantages include being able to use ONE System and Finder configured the way you want it, being able to have all of the frequently used software at your fingertips and not having to find your Magic start-up disk (it's on Drive C).

Does It Work?

The answer to that is an emphatic YES! I have been using Magic 4.51 with an Atari SH204 for over two weeks with NO hard disk related problems. NOT ONE! Version 4.50 beta only allowed 100 files in a partition (Apple's limit, not Data Pacific's!). Version 4.51 has been expanded to 300 files. I routinely have more than 100 files on the HD without any problems. Disk swapping has been all but eliminated and it has become a pleasure using the Mac (I mean Sac).

TABLE 1 - Performance Comparisons: Hard Drive versus Floppy Disk (Time in Seconds)

Operation	Hard Drive	Floppy Drive
Load Microsoft Word 3.01	28	78
Load 9-page Word text file	2	4
Save 9-page Word text file	7	16
Load SuperPaint	13	27
Load paint file	3	5
Save paint file	4	24
Load Ready,Set,Go! 3	14	30
Load 8-page RSG text file	3	9
Save 8-page RSG text file	4	13

To sum up the performance of a Hard Drive and the Magic Sac: "ACCEPT NO SUBSTITUTE".

Current Notes ST Library

Note: Programs are either public domain, copyrighted but distributed freely (e.g. ST Writer), or shareware products where the authors would like an additional payment if you like their products. Disks are \$4 each. Add \$1 per every 6 disks for postage. Order from CN Library, 122 N. Johnson Rd., Sterling, VA 22170. VA residents add 4.5% sales tax.

#179: KID FUN. For younger kids: KID NOTES, a musical keyboard player; BARNYARD, simple version of Concentration; KID SKETCH, simplified drawing program. For kids a little older: DOODLE, drawing program; and DELUXE PIANO PLAYER, very nice keyboard piano.

#178: BREACH SCENARIOS: 16 BREACH scenarios ranging from easy to the star level. (most difficult)

#177: PASCAL SOURCE CODE: program to recursively search for displaying complete disk directory, statistics routines, complex math routines, and disk library program.

#176: ST WRITER GEM Version 2.10. English, Spanish, and German versions of the new "semi-GEM" based ST WRITER. Complete documentation included.

#175: ST WRITER TEXT Version 1.80. English, Spanish, and German versions of the latest TEXT-based version of ST WRITER. Includes complete documentation and several articles.

#174D: STAR TREK ANIMATION. Several animated pictures featuring the Star Ship Enterprise. Constructed Using CAD3D.

#173D: CYBERSCAPE. Animated graphics demo from ANTIC. See disk transform to spaceship, fly into and explore the Atari ST. 1Mb & DS drive.

#172: JUGGLER GRAPHICS DEMO: A juggler in low rez converted from the Amiga.

#171: "C" PROGRAMS NO.6: BMODEM, SEALINK, and two unix type utilities, SED and CTAG.

#170: DIOX v0.9: Easy user interface simplifies the construction of dialog boxes in GFA BASIC. Outputs GFA source file.

#169: GFA BASIC HELP DISK: Lots of "tips" on using GFA BASIC. Includes graphics tutorial.

#168: GFA BASIC PROGRAMS NO.2: Source to Boulder Dash variant, Battleship, and RECALBDB (a record album database program).

#167: TERMINAL PROGRAMS NO.6: WTERM, TRANS100 and the AMULTI compatible version of BMODEM that allows file transfers in the background.

#166: ST UTILITIES NO.19: ICD utilities including one that preserves the time/date stamp in the copying process. Includes several files for altering the step rate of 5 1/4 inch drives for use with the ST.

#165: DISK LIBRARY PROGRAMS: DISKCAT v1.3 and MENU.PRGM (Pasca source to MENU included). MENU is the BEST PD disk library program available.

#164: ST GAMES NO.9: Boulder Dash variant, Battleship, Lunar Lander.

#163: PROGRAMMER'S EDITOR DISK. Includes PROEDIT by Jerry Cole: general purpose programming editor with outline feature; and ConTEXT by Don Milne, designed for use with Modula2, but a good editor with any language.

#162: UTILITY NO.18 HARD DISK UTILITIES. dir count (gets around 40 folder limit); C shource to HD directory; supra ver 2.61 utilities; turtle HD backup, ver 2.15; add multiple HD to supra.

#161: TINYPICS NO.9 VEHICLES-2 (MONO)
#160: CLIP ART Monochrome No. 3
#159: CLIP ART Monochrome No. 2
#158: CLIP ART Monochrome No. 1
#157: Multi-Lingual Word Processor demo
#156: SAMPLE "C" PROGRAMS NO. 5
#155: UTILITY DISK NO. 17. dcopy20; diskfix; megablit drawing prg; most (view text files); qcopy; quikblit2 (quick disk labels); ymodem batch accessory.
#154: UTILITY NO.16 MODULA-2 UTILITIES. context2 Modula-2 editor; m2print (pretty print program); makefile utility; qcopy (source for disk copier prg); and m2proc (display procedures).
#153: EAMON ADVENTURE GAMES. Eamon Beginner's Cave; Devil's Tomb, Eamon Death Star, Holy Grail, 1st Eamon game version; ver 2.0 of main hall.
#152: PD 3-D CONTROL ACCESSORY
#151: ** ANTIC DEMO "SPACE PROBE"
#150: FIRST WORD PRINTER DRIVERS
#149: TIM OREN'S GEM PART-II

#148: TIM OREN'S GEM PART-I
#147: TINYPICS NO.9 CLIP ART
#146: TINYPICS NO.8 FAMOUS FOLK
#145: ST UTILITY DISK NO. 15. ASL (print out multiple documents); GULAM (command line interpreter), HDSCAN (selectively backup hard disk); LABELS (disk label prg); STARTGEM (start GEM prgs from AUTO)...
#144: ST UTILITY DISK NO. 14. Alarm clock acc, C shell, buffer setup prg, coldboot.tos, display any res DEGAS on any res monitor, script for DEGAS slide show, hddisk auto boot, multiple file printer, mouse ed., spelling checker, rambuffr.acc.
#143: CITADEL BBS
#142: ST TERMINAL DISK NO. 5
#141: ST GAME DISK NO. 8. (color) Azarian and DGBD (similar to SHAMUS).
#140: ST GAME DISK NO. 7. (color) Triple Yahtzee, Wheel of Fortune, Pente, Sensor, Spacewar.
#139: MONOCHROME GAME DISK NO. 3. Iarn2, ogre, ataritrek, maze maker, checkers, battleship, window ball.
#138: TINYPICS NO. 7: ANIMALS
#137: TINYPICS NO. 6: CARTOONS #2
#136: MICRODEAL DEMO PROGRAMS
#135: SHANGHAI DEMO PROGRAM
#134: ST-REPLAY by 2-BIT SYSTEMS
#133: SAMPLE C PROGRAMS NO. 4
#132: ST UTILITY DISK NO. 13. diskcat (Disk library program); less & vix (two disk editors); autodisk, dcopy (disk copy programs); startgem, access, rocp.
#131: ST UTILITY DISK NO. 12. Programmers Utility Disk: uuencode, uuencode, bucket, kill, scach, make, setinit, verify, volume, 1-filepr, case, mase,...)
#130: SAMPLE GFA BASIC PROGRAMS #1
#129: SPHERES! DEMO (color)
#128:** SteelyBoink! (color)
#127: ST FONT EDITORS/LOADERS
#126: PUBLISHING PARTNER UTILITIES
#124: ATARI ST ICON LANGUAGE, V6.3
#123: SHAREWARE C COMPILER
#122: ST GAME DISK NO. 6 (color) Monopoly, Hanunted House, Backgammon.
#121: UTILITY DISK NO. 11. address book, text browser, arxx, format.gem, gem font editor, font loading acc., start1.1
#120: TINYPICS NO. 5: CARTOONS
#119: TINYPICS NO. 4: TRANSPORT
#118: TINYPICS NO. 3: SCI-FI
#117: ST DESK ACCESSORIES NO. 2. acc load, eternal, format acc, index, kalklock, mobzdil2, new word, startup1.1.
#115: AEGIS ANIMATOR DEMO DISK
#114: MUSIC STUDIO SONGS NO. 2
#113: ST UTILITY DISK NO. 10. turtle (hard disk backup utility); progcalc (programmable calculator in med rez); undelete; format3, vidcol (convert DEGAS Elite to ASCII simulations of Vidtex for viewing by Flash.)
#112: ST GAME DISK NO. 5. (color) checkers; slot machine; warzone, ...
#111: SAMPLE PASCAL PROGRAMS NO. 3
#110: SAMPLE MODULA2 PROGRAMS NO. 3
#109: TINYPICS NO.2 EMPIRE / SHUTTLE
#108: TINYPICS NO.1 GH BUSTERS/RAIDERS
#107: ST RAM DISKS
#106: FIRST BYTE SMOOTH TALKER DEMO
#105: CN MOVIE MAKE IT MOVE DEMO
#104:** ALADDIN ST VOL. 1.0 DEMO DISK
#103: (M) SKY-MAP: STAR CATALOG PROGRAM
#102: ST UTILITY DISK NO. 9
#101: ST GAME DISK NO. 4
#100: ST GAME DISK NO. 3

Note: send SASE for a complete listing of CN library.

Current Notes MAGIC Library

ST-MAGIC DISKS. These disks contain Macintosh programs for use with the Magic Sac Cartridge on the ST. Disks are already in Magic format. All have been tested to verify that they work with the MAGIC SAC and can be used directly. Order from CN Library 122 N. Johnson Rd., Sterling, VA 22170. \$4/disk + \$1/(6 disks) shipping and handling.

#M0: MAGIC SAC. Version 4.36, (or the most recent ver) of MAGIC program.

#M1A: FINDER 4.1 (Boot) Disk. Altered Finder, Edit, REdit, MacLuff, System Folder (Finder 4.1, System, Image Writer, Clipboard File, Scrapbook File, Notepad File) for 1-MB ST.

#M1B: FINDER 1.1 (BOOT) DISK. Bootedit, Life, MacWait, Desk Cal, System Folder (Finder 1.1, System, Image Writer, Clipboard File, Scrapbook File, Notepad File) for 520ST.

#M1C: FINDER 5.3 (BOOT) DISK. Show Version, ReadmacWrite, Make-Screen, Dcad Calc.

#M2: TELECOM DISK NO. 1. Free Term 1.8, FreeTerm.Doc, Term-works, Kermit, BinHex 5.0.

#M3: UTILITY DISK NO. 1. Switcher, PackIt, Slicer, MacDump, RMover, Reverse Screen, DES, Font Doubler, Set File, Scan, Version Reader 1.1, Write Stream.

#M4: GAME DISK NO. 1. Missile Command, Solitaire, MacLuff, Space Bubbles, Back Gammon, Smile, Bash Big Blue, Munch, Meltdown, Maze 3D, Snow, Curves, Finder, System.

#M5: DISK LIBRARIAN. Disk Librarian Ver 1.82A. Disk Librarian Doc, Librarian Short Doc. Contains listing of CN MAGIC LIBRARY.

#M6: GAME DISK NO. 2. Ashes, Wall Game, Wheel, Black Box, Snake, Destroyer, Hex Puzzle, Office Attack, Symmetry Demo.

#M7: GAME DISK NO. 3. Mac-Yahtzee, Wiz Fire, MacCommand, MacBUGS, GO, Break the Bricks.

#M8: DESK ACCESSORIES NO. 1. DA Tester, F/DA Move, MockPrint, MockTerminal, MockWrite, Mini-Writer, Moire, ArtThief, Ascii, File Hacker, Other 3.0, SkipFinder, MW Count, 18 more....

#M9: UTILITY DISK NO. 2. File Hacker, ResEd, RamStart 1.3, Font Doubler, Change App.Font, Desk Acc. Mover, Convert Desk Acc.

#M10: GRAPHICS DISK NO. 1. Living Art, Pattern, Painter's Helper, Moire 3.0, Nightmare, Rotations, Ball Demo, Hot Sex, Meltdown, View Paint 1.1, Curves, Fourth Dimension, Pics:(bugs, amy, pisces, brooke, garf).

#M11: PRINT UTILITIES. Chooser, Ink, Font DA Mover 3.2, Font Mover, Fast Eddie, MockWrite, MacWrite 4.5 to Text, MiniWriter, Disk Labeler, 3 fonts.

#M12: MACBILLBOARD. Enhanced MacPaint clone. (shareware by C.E. Software). Includes docs and sample pictures.

#M13: FONT DISK NO. 1. Athens, boxie, dover, hood river, imagewriter, led, london, los angeles, luxor, monaco, park ave, pica, ravenna, rome, san francisco, seattle, steel brush, ultra bodoni, and font/da mover 3.4.

#M14: FONT DISK NO. 2. Bookman, courier, coventry, dali, geneva, hebrew, manteco, shadow box, srilanka, times, walla walla, and font display 4.6 w/docs.

#M15: GAME DISK NO. 4. Space Attack, Amps 3.0, Jago, Nim, Mac-heads, Canfield, Lets Get Tanked, Bricks.

#M16: FONT DISK NO. 3. Alice, avante garde, berkeley, broadway, camelot, cartoon, centura, chancery, eon, exeter, fallingwater, fantastel, future, ham, helvetica, hollywood, lachine, lineal, madrid, pittsburg, san quentin, silicon valley, stencil, supfonts, unicol.

#M17: DUNGEONS OF DOOM 4.0. Graphic adventure game.

#M18: DESK ACCESSORIES NO. 2. Alarm clock, calculator+, choose scrapbook+, DA File, Disk Labeler, Explorer, Hex Calc, LabelMaker, MemWindow, MockPackage+, Multi-Scrapbook, Popup, ProCount, Read-Printer, Ruler, Skipfinder 6.1, Sleep, Stars 1.6 and Timer.

#M19: PINBALL CONSTRUCTION SET GAMES. 5 games: apple, face, madonna, patchwork mess, samurai;

includes pinball construction set player.

#M20: GAME DISK NO. 5 Crystal Raider, Daleks, On-The-Contrary, Golf MacWay, ChaseEm, StuntCopter1.2.

#M21: GAME DISK NO. 6 Hot Air Balloon, Guess, Match, Trick-Track, Ramm1.0, Utaan Attack.

#M22: GRAPHICS DISK NO. 2 BlowUp 3.0, BlowUp Notes, CalendarMaker 2.2.1, Graphic, Math21, Spiro, Vanlandingham.

#M23: VAMPIRE CASTLE. Graphic adventure game.

#M24: DEEP ANGST. Graphic adventure game. 1 Mb ST only.

#M25: GAME DISK NO. 7. Billiards, Hangman-9.0, Safari 1.0, CrossMaster Demo.

#M26: GRAPHICS DISK NO. 3. MakePaint, ShapeArt, StarFlight, PaintMover, 3D Sketch, Small View.

#M27: UTILITY DISK NO. 3. WayStation, lazymenu, SuperFinder 4.0, Unpit, ShrinkToFit, FEdit 3.0, RamStart 2.0+, MenuEditor, Road Atlas.

#M28: Red Ryder 7.0. Red Ryder 7.0, RR7.0 Macros, Red 7.0 Stuff, ASrchived screens, clipboard file, system folder.

#M29: PCS GAMES NO. 2, Pinball Construction Set Player, PCS docs, system folder, games (circus circus, D&D, Merlin, Mac, Twilight Zone, Diadora)

#M30: GAME DISK NO. 8. Shots, Mactrek 1.1, Bowl-A-Rama.

#M31: BLACK WIZARD. Graphic adventure game by Richard Loggins.

#M32: FONT DISK No. 4. Humanistic 18,26,48,72; new dali 24; music 9,10,14,18,24; palo alto 10,20; Chicago 18,24; pioneer shadow 36; canbera 12,24; palencia appl. v2.1; font tester, F/DA sorter.

#M33: CLIP ART NO. 1. Disney #1, clip art demo, flowers, seasons, business, carlogos, trees1, trees2, viewpoint 1.1, system folder.

CYBER STUDIO, PART II

CAD 3D 2.0, Cybermate Animation, and Their Universe

Review by Bill Moes

Last month you planned your animations and created the 3D objects. You recorded the animation by using either the recording method within CAD 3D itself or by using the public domain control accessory. So you've got the animation files. Now the animation is complete, isn't it? No, not always.

- Yes, you can play your animation directly after recording. An animator program is included and it's easy to use. Just run the animator program and select the file name. Straight forward. It even offers simple speed and direction control. A procedure is also given to create a stand-alone animation. But what if you want to get fancy. And not just a little fancy, but real dancin' in the palace stuff. Okay, look at *Cybermate*, which, like the more easily used animator program, currently runs in color only.

Cybermate is the second disk in *Cyber Studio*'s two-disk package. It's a computer language (written in Forth) for editing and displaying the CAD 3D animations.

There are four modes within *Cybermate*. In the Interpreter you'll load and save files and experiment with different commands. The actual code is entered in the Text Editor on "screens" of 16 lines. The third mode, a Preview Editor, lets you go through sequences at various speeds and check on the color palette. The fourth mode, Display, shows the movie.

Scr: 1 Buffered lines: 0 Buffered words: 0

```

0 | Simple Sequence Procedure
1 | LOGO
2 | 30 cubelogo rate      \ update every 30 ticks
3 | cubelogo showl       \ show the starting frame
4 | zero-clock           \ reset CYBERTIME
5 | tick                 \ start of loop
6 |   cubelogo update    \ show next frame @ rate
7 | tock                  \ end of loop
8 | cubelogo reset       \ reset the sequence
9 | restore              \ stop and wait for a key
10 |
11 |
12 | \ [NOTE: CHECK OUT SCREEN #29 FOR AUTOMATIC LOADING OF
13 | \ OBJECTS (EXCEPT IMAGE OBJECTS)]
14 |
15 |
-----
^M: Cut-word   ^T: Tack-word   ^K: Cut-Line   ^L: Lift-line   ^P: Paste-line
^X: Cln-Scr   ^F: Fvd-Scr   ^R: Back-Scr   ^G: GoTo-Scr   ^V: Verify-Scr
F1: Save-Edit      UNDO: Restore-Scr      F10: Abandon-Edit

```

A tutorial uses the animation example you created in the CAD 3D documentation along with other sample files already prepared on the disk. You're shown simple uses of the language and given the nickel tour through the four modes of the program. I thought more sample programs and additional tutorials in creating shows would have been helpful. It's possible, though, to just use the parts of the language you understand, taking advantage of a limited number of commands while you become familiar with the rest. Those with some knowledge of Forth, or even other programming languages, will probably feel a little more comfortable with the process than non-programmers. The program does not use GEM or the mouse. This makes its use a little more difficult, especially after the GEM/icon ease you experience with CAD 3D.

The 77 language commands are explained in a glossary. The glossary defines the terms and lists and explains program lines which correctly use the command. Also, a set of sample screens is in a disk file. You'll be prompted to print those screens out. In the sample screens you'll see the programming examples you'll really(!) need to study if you plan to edge out to the full potential of the software.

There are some worthwhile effects possible by using *Cybermate* to fine-tune your animations. Sound effects created with *G.I.S.T.* (CN June 1987) can be added to specific frames. Various types of dissolves from image to image can be made and these are unusual and striking. As the animation is held in RAM, it's possible to quickly set or alter the animation's speed, snail to sizzling (60 fps). (Incidentally, theater movies are shown at 24 fps.) You can have up to 1,000 frames in RAM at one time. While this sounds like a lot (and it is), a little math shows that an animation running at a reasonable 20 fps will use those 1,000 frames in just under a minute.

Cybermate includes other statements for manipulation of the objects, colors, sequences, and screens you created in CAD 3D. Loops can be used. This language is in the "experimental" stage, so if the commands you're after aren't there now, there's a chance they'll show up in a revision. Revisions are to be posted on BBS's. Being an "experimental" language also means you'll possibly run into a crash or two.

Cybermate's documentation is disk-based (73 pages). I see this as an acceptable way to pro-

vide documentation in that it can offer quick up-dates at low cost. If you don't have a printer available, the documentation for this program is available in printed form (\$15). That won't help with the other files you'll need to print out.

The documentation's table of contents does not list page numbers; you'll need to fill those in yourself. That's a minor inconvenience, true, but one which should not be necessary. Instructions are given to create a run-time disk for distributing your animations.

The programs in *Cyber Studio* can be used with single sided drives, if necessary. A single sided drive will restrict the size of an animation file, although files may be chained within *Cybermate*. Double sided drives would be very useful. The heavy hitters will be driving their hard ones.

Both *CAD 3D* and *Cybermate* are capable of providing stereo views of the objects and animations. I did not have the necessary 3D glasses available and, therefore, was unable to judge this feature. The documentation in both of the programs explains how to set everything up for the stereo view. After reading it and noting that little space was needed to describe the steps, it would seem a simple and clear process.

Cyber Studio's two-disk set (\$89.95) is from Antic Publishing. Although Antic does not copy protect its software, a special formatting method was used on these two, putting more than normal amounts of data on the disks. This requires you to make backups by dragging individual files to your backup disk. One megabyte RAM is required (1040 ST or an upgraded 520 ST).

If you own *CAD 3D v.1.0*, you can obtain the two-disk set of *Cyber Studio* by sending the original disk and \$65. If you're interested in a demo which shows what this package can do in the hands of the big kids, take a look at "Space Probe" (CN ST Library disk 151D).

Fonts and Primitives

Many animations benefit from titles, as objects do from labels. *3D Font Package* (\$24.95) offers two fonts. San serif (uppercase only) and serif (upper and lowercase) give some variety and make titles and labels easy. Each letter is stored in a separate file, so don't go here for great bodies of text. It's impossible to read 3D text of small size in any case.

There's also an improved extrude tool included, which runs in color only. You'll see a 90 X 90 grid on which to place dots outlining the shape. After the dots are placed, connect three dots at a time to form a triangle. (All *CAD 3D*

shapes are formed by triangular faces.) As you connect each set of three dots, the shape will fill in with one of two colors. These will later correspond to the two sets of colors you choose within *CAD 3D*. You can select one of those two colors for each triangular part, or set the color of the back or sides to a color other than that on the front. It's no trouble to include a hole in the center of a shape, something not possible in the normal extrude. You can also quickly create an object made of more than one separate piece.

This improved extrude is not perfect and Hudson calls it a "preliminary" version, yet you'll enjoy the ease of use and the shapes you can put together. Maybe you'll even be interested in designing your own fonts with it.

The disk also has four files of primitives: cones, cylinders, polygons, and toroids. There are three or four of each. A folder containing hints and suggestions from Hudson is also there.

After trying to create your own 45 letters, numbers, and keyboard symbols within *CAD 3D*, you'll consider this disk a bargain. And the easily used extrude can accomplish designs you'll not otherwise develop. *3D Font Package* is probably close to a necessary addition.

Future Design Disk

Many of us have the interest. What we lack is professional artistic talent. No shame there and help is available on the *Future Design Disk* (\$24.95) by Darrel Anderson.

The disk is a collection of clip art, 3D style. It includes folders of engines, frames, and other parts which follow the topic's concept. The components include objects which have been both extruded and spun. There are 58 individual object files available in the folders.

Six other individual files on the disk contain partially assembled models. One model, an android, has 19 parts and is a combination of objects made in two different colors. It's a good lesson in combining parts and colors, and not having the parts joined allows you to set up different android movements and gestures, or to use the individual parts elsewhere. The other models, also multicolored, have fewer parts and may be assembled.

The disk-based documentation includes detailed directions for assembling those five models (they're not snap-together) and tables listing the time you'll watch (about 15 to 50 minutes of total join time). Directions are also given to assemble a space station from individual files on the disk. You'll need to develop some minor objects within *CAD 3D* for that station.

Helpful advice, hints, and detailed suggestions for the advanced users are there. It's easy to tell that Anderson knows his way around this Land of 3D and that he wants to show you the paths.

Also included are three actual architectural blueprints. They show the components found on the disk, including the space station you may assemble yourself. These blueprints add another touch of class to the offering and, in addition to cataloging the components, the blueprints are certainly useful if you need some 11" X 17" frameables from another world.

The End Is Near!

Although not reviewed here, the *CAD 3D* software group includes several other aids (all from Antic Publishing). *3D Developers Disk* (\$29.95) shows C or machine language programmers how to hook into the desk accessory "pipeline". Two other design disks, *Human Design Disk* along with *Architectural Design Disk* (each \$29.95), provide models, blueprints, and design tips on two important subjects. Consider *Plotter and Printer Drivers* (\$24.95) for plotter pen-outs. The original v.1.0 of *CAD 3D* (\$49.95) is still available if you have a standard 520 ST.

Although not a part of the *CAD 3D* collection, remember sounds are *G.I.S.T.* sounds (\$34.95). And if you're interested in stereo 3D views, take a double-look at the *Stereotek 3D Glasses* (\$149.95).

The original *CAD 3D* garnered high praise. With the additions, both to that original and in the availability of supplemental disks, it seems clear we're dealing with a landmark software set. Much like the collection of individual tools within *CAD 3D*, this collection of programs interacts, modifies, and enhances in ways powerful and synergistic.

It is obvious that this software collection is useful in a very wide range of 3D modeling and animation activities. And, as people become more aware of the potential of the Atari ST and the capabilities of its expanding top-quality and reasonably-priced software collection, those activities will become more widely noted.

An article in *COMPUTERS IN SCIENCE* (Premiere 1987 issue) shows how *CAD 3D* can be used by scientists to create 3D models of atomic orbitals. And many others should have no trouble finding uses for the software. Graphics and advertising artists, architects, scientists and engineers, designers, and video professionals: all are among those who could find great aid and value here.

There's nothing at all difficult about

casually enjoying the software, although the scope of strengths means this set is not always to be quickly used to advantage. Some uses are, indeed, quite simple ... others can be complex. As you look for the sophistication, you'll find that solutions may take some practiced effort. Consider the capabilities and the cost: much will be possible which was not possible before ... and which is not possible elsewhere.

Tom Hudson created this 3D universe with his original *CAD 3D*, released over a year ago. Today, building in that universe means we have the opportunity to dynamically field our three-dimensional views with fluid animation, sound effects, prepared graphics, and even stereo 3D perspective. And there is the continuing ability to pipe in additional capabilities with new desktop accessories. This most exciting challenge contains numerous possibilities and encompasses vast potential.

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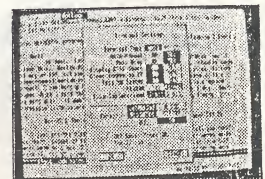
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WHAT YOU SHOULD KNOW ABOUT ATARIFEST '87

by Georgia Weatherhead

LODGING. Holiday Inn (Fairfax City) is giving discounts to those registering using the NOVATARI name before October 2, 1987. After October 2nd, NOVATARI discounts may depend on room availability. The Holiday Inn is approximately one mile from Fairfax High School and there are other more inexpensive motels located within a few blocks of the school. "Cue" bus routes include stops one block from the hotel and at the school (fare \$0.25). Taxi fare from Dulles International Airport range from \$20-25.00.

TRANSPORTATION. By car from the East, take Interstate 66 West, exiting onto Nutley. Turn left on Nutley and 1/4 mile later, turn right on highway 29. Approximately one and a half miles, turn left on Rebel Run and the high school is just up the hill;

Alternatively, come west on highway 50, passing through Fairfax Circle and then turn left at the second traffic light (Rebel Run), the school is just up the hill.

From the West, take highway 50. Rebel Run is the third traffic light past Chain Bridge Road (Rte 123). Turn right and the school is just up the hill.

If you are coming by Metro, get off at the Vienna Station (end of the Orange Line), exit on the north side and catch a Cue bus.

METRO PASSES. Four family passes that allow unlimited number of rides on busses and/or subway on Saturday and Sunday can be purchased for only \$5.00 by writing to NVIC, 2009 N. 14th St., Suite 300, Arlington, VA 22201. Or, call NVIC at (703) 524-3322 Monday - Friday, 8:00am to 5:30pm and have your VISA, MASTERCARD or CHOICE card ready to provide the number and expiration date. These passes cover subway and Metro buses, but not Cue. The Metro buses can be boarded at the South entrance to the Vienna Station.

(Out-of-towners, this would be an ideal time to bring the family and visit both Atarifest and the Smithsonian.)

BANQUET. Saturday night there will be a banquet at the Holiday Inn at 7:30pm. The main speaker will be John Skrutch, Atari Corp VP, who will discuss Atari's future plans (including the 8-bit field). Other Atari personnel will also be

present. Dress is decidedly informal, ranging from the Atarifest Staff shirts to street garb. NOVATARI and Current Notes will also have hospitality rooms available prior to the banquet. Space is limited to the first 120 people reserving tickets; price is \$20.00 per person. Reserve your ticket(s) quickly. Send your check, made out to NOVATARI, to Andrea Bonham, 3344 Beechtree Lane, Falls Church, VA 22042.

TIME. Saturday, October 24th, 10:00am - 5:00pm
Sunday, October 25th, 1:00pm - 5:00pm

ADMITTANCE FEE. None, but be sure to register and sign up for the two special drawings, a surprise 8-bit piece of hardware and a 16-bit ST!

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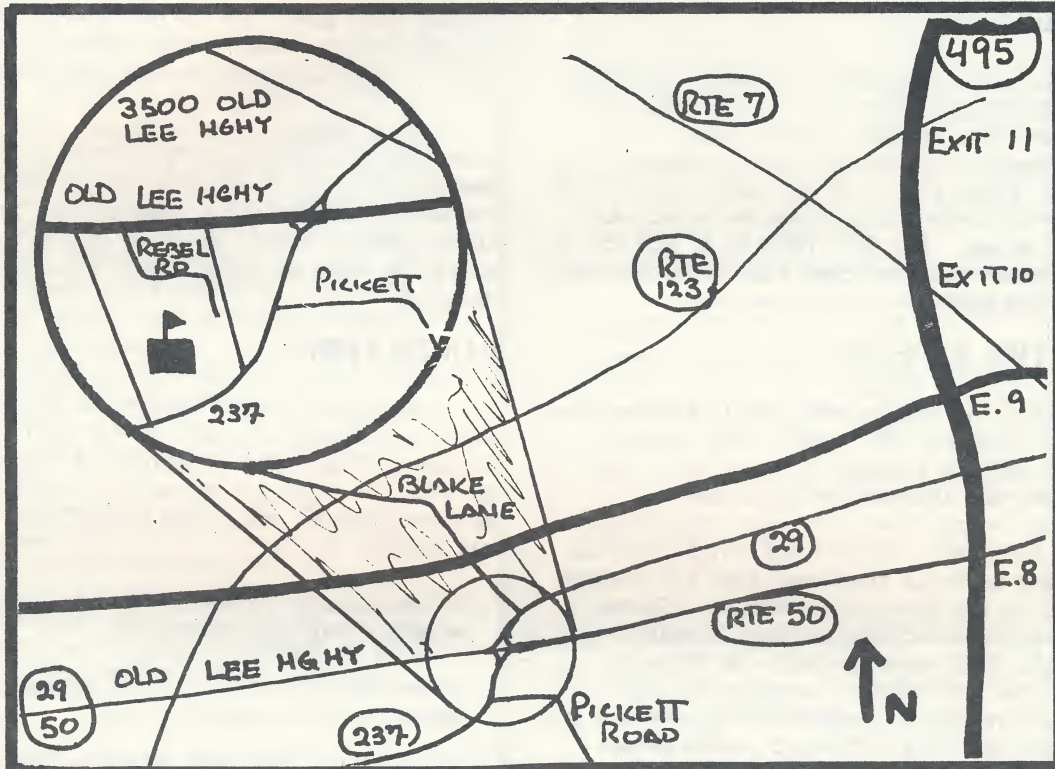
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R . A . I . D .

A Somewhat Buggy Debugger

Review by Stephan D. Eitelman

INTRODUCTION

The MichTron company is currently marketing some outstanding products for the ST line and some not so outstanding. Unfortunately, *R.A.I.D.* seems to be in the latter category; I rate it at about a B-. It is usable, but it has its share of, let us say, idiosyncrasies, as described below. *R.A.I.D.* retails at \$39.95, is not copy protected, and runs fine from both hard disk and RAM disk.

ENDEARING ASPECTS

Possibly the single most useful feature (and often the court of last resort) for debugging an obstinate machine language program is to execute the program one instruction at a time, displaying the results after each step, to see where it runs amok. This function, called the single step or trace function, does not work as described in the instruction manual. To use this all-important debugging tool requires a trip to the MichTron roundtable on GENie to discover what the correct commands are. It seems that they were changed in the software but the changes were not reflected in the manual. The manual says that STEP and STEPS are the commands. It turns out that STEP or T should be used. Note that the U and S suffixes have been removed. Originally, they were intended to allow stepping in either user or supervisor mode.

Another problem (this one apparently a real bug) involves running programs from *R.A.I.D.* (using the GO command) that end with a call for a return key, such as Input "Hit return to continue.", C\$ in Basic. This line of code and its C-language analog, `ch = getchar();`, result in the keyboard being locked out. Since it is a relatively simple matter to remove these lines from the program for debugging purposes, this is not a serious problem.

Another unpleasant feature is a directory command that only lets one see the drive from which *R.A.I.D.* was loaded; what the manual calls the "currently logged drive". If the program file being worked on is on another drive, you had better remember its name and location.

My last complaint is that when an error message is printed out, it is printed over the

command that gave rise to the error. It is thus not possible to examine the command after the error to try to determine what went wrong.

None of these flaws is fatal; I was able to live with them with only a minimum of growling. Nevertheless, if I am going to pay \$39.95 for a commercial version of a program that is available in the public domain (more or less), I expect something substantially better than the PD version.

DISCUSSION

A debugger is what used to be called a machine language monitor, as far as I can tell. I compared the major functions of *R.A.I.D.* with my favorite eight-bit ML monitor (HESMON-64 for my Commodore 64) and found the primary functions all there:

- A disassembler (converts ML into standard 68000 assembly language mnemonics).
- An assembler (converts 68000 assembly language mnemonics into executable ML).
- Breakpoints to stop the program at predetermined points (When you have found where your marvelous ML creation is disappearing into the fourth dimension. This feature ranks right up there with the single step function in importance in debugging. The top one is probably the trash can icon. Sometimes it's easier to start over than fix the thing!)
- Copy, fill, display and move specified portions of memory.
- Find the address of a string.
- Execute a program. (This is where the aforementioned keyboard lockup occurs -- using the GO command.)
- Load a program. (Three different ways.)
- Save a program. (Two different ways.)
- Single step (trace) through a program. When all else fails.

One of the most useful bells and whistles that MichTron included is the provision of two

screens, the normal program screen and the *R.A.I.D.* editing/display screen. The user can easily toggle between them with the ESCape key. The *R.A.I.D.* screen contains complete CPU register status as well as breakpoint identification -- a well thought out screen. The debugger also contains a *HELP* command that displays an up-to-date list of commands. The trick is to ignore the manual and believe the help screen!

PUBLIC DOMAIN ALTERNATIVE

While I haven't been too terribly kind to *R.A.I.D.* in this review, I like the PD alternative even less. This is because of a great, glaring hole in its capability: there is no assembler with it. There is a separately available assembler which can be used in conjunction with the debugger, but this arrangement is quite awkward and time-consuming because of the need to be constantly switching between the two. At any rate, they are cheap, so here is the reference data needed to purchase them:

- MonST is the name of the PD debugger. It is available on CN ST Library disk 102 (ST Utility disk No. 9).
- The assembler is called A68.TTP and is in the folder labelled ASSEMBLER on CN ST Library disk 30 (ST Utility disk No. 2).

It should also be mentioned that Antic Software advertises a product called *A-SEKA* for \$34.95 that appears to be roughly comparable to *R.A.I.D.*, although I have not tried it. There are probably others.

CONCLUSION

R.A.I.D. is quite functional and if you are going to be doing any significant amount of assembly language programming on your ST, it should be a good investment. The problems I encountered are not terribly serious and there is an active category/topic covering changes and problems on the MichTron roundtable on GENie. Tim Purves of MichTron has said he is referring the bugs to the programmers, so there will probably be updates.

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Pascal and Modula-2 source code are nearly identical. Modula-2 should be thought of as an enhanced superset of Pascal. Professor Niklaus Wirth (the creator of Pascal) designed Modula-2 to replace Pascal.

Added features of Modula-2 not found in Pascal

- CASE has an ELSE and may contain subranges
- Programs may be broken up into Modules for separate compilation
- Machine level interface
 - Bit-wise operators
 - Direct port and Memory access
 - Absolute addressing
 - Interrupt structure
- Dynamic strings that may be any size
- Multi-tasking is supported
- Procedure variables
- Module version control
- Programmer definable scope of objects
- Open array parameters (VAR r: ARRAY OF REALS;)
- Elegant type transfer functions

Ramdisk Benchmarks (secs)	Compile	Link	Execute	Optimized Size
Sieve of Eratosthenes:	6.2	4.3	3.5	2600 bytes
Float	6.4	4.8	8.3	4844 bytes
Calc	5.5	4.2	3.3	2878 bytes
Null program	5.1	3.2	—	2370 bytes

MODULE Sieve; CONST TYPE VAR BEGIN FOR i:= 1 TO 1000 DO Count:= 0; Flags:= FlagSet(i); (* empty set *) FOR k:= 0 TO Size DO IF (i IN Flags) THEN Prime:= (i * 2) + 3; k:= i + Prime; WHILE k <= Size DO INCL (Flags, k); k:= k + Prime; END; Count:= Count + 1; END; END; END Sieve.	MODULE Float; FROM MathLib0 IMPORT sin, ln, exp, sqrt, arctan; VAR x,y: REAL; i: CARDINAL; BEGIN (*\$T-\$A,\$S-\$*) x:= 1.0; FOR i:= 1 TO 1000 DO y:= sin (x); y:= ln (x); y:= exp (x); y:= sqrt (x); y:= arctan (x); x:= x + 0.01; END; END float. MODULE calc; VAR a,b,c: REAL; n, i: CARDINAL; BEGIN (*\$T-\$A,\$S-\$*) n:= 5000; a:= 2.71828; b:= 3.14159; c:= 1.0; FOR i:= 1 TO n DO c:= c*a; c:= c*b; c:= c/a; c:= c/b; END; END calc.
--	---

Product History

The TDI Modula-2 compiler has been running on the Pinnacle supermicro (Aug. '84), Amiga (Jan. '86) and will soon appear on the Macintosh and UNIX in the 4th Qtr. '86.

Regular Version \$79.95 Developer's Version \$149.95 Commercial Version \$299.95

The regular version contains all the features listed above. The developer's version supplies an extra diskette containing a symbol file decoder -- link and load file disassemblers -- a source file cross referencer -- symbolic debugger -- high level Windows library Module -- Ramdisk and Print Spooler source files -- Resource Compiler. The commercial version contains all of the Atari module source files.

Other Modula-2 Products

Kermit	- Contains full source plus \$15 connect time to Compuserve.	\$29.95
Examples	- Many Modula-2 example programs to show advanced programming techniques	\$24.95
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MS DOS ON THE ST, PART II

by Wm. Price

DOS 3.3 & 3.2 - Compatible?

Let's move right along. Will the configuration we discussed last month work with DOS 3.3? Despite the fact that DOSes are supposed to be upward compatible -- it doesn't work! An error message shows that a drive isn't defined and that there is an error statement. The drive definition error refers to the DEVICE= parameter and the sour statement refers to DRIVEARM. This command was introduced in DOS 3.2, but evidently it was replaced in 3.3 by a simpler method of configuration. To configure your 3.3 disk, enter the following:

```
A> COPY CON CONFIG.SYS      [RET]
DEVICE=DRIVER.SYS /D:0 /F:2  [RET]
DEVICE=DRIVER.SYS /D:1 /F:2  [F6][RET]
```

Voila! This works, but with a hitch. After the above configuration is completed, if you elect FORMAT A: or FORMAT B:, all you get is 40 tracks and 360K -- a bummer. But use FORMAT C: or D: and it works for 80 tracks. This does make more sense and gives more flexibility than the DOS 3.2 method. For example, FORMAT B: produces a 360K disk and FORMAT D: produces a 720K disk on the same drive. Does this work with 3.2? Dunno! Don't have the patience to try. I'm almost exhausted from techno-stress.

Drive Problems

Had any problems using your Tandon drive? Well join the club. From the frequency of complaints, this appears to be a common problem. First was the special DIN cable that was loosely crimped on the edge card connector end. Tapping on the back of this connector may make a good contact, but exchange it for one that works. Don't go through the grief of trying to be an engineer. That's the business of your dealer. You should also insure that the resistor pad or chip used to identify last drive in a chain is removed, and that resistor R14 is either clipped or lifted from the circuit. Two users had drives that worked perfectly for several days and then went kaput! Although the drive was recognized as being in the chain, and formats and writes seemed to work, disks couldn't be read. The problem? Head alignment! And I am informed that this is not an unusual problem with the Tandon. IBC and Paradox half-height drives work well. The IBC requires a "conditioning" utility to work. Some have suggested that the Tandon seek rate may have to be changed to 6 ms. However, none of the working Tandon drives have required this step-

down, and I don't believe *PC-ditto* sets the seek rate. For the long term, the best solution is to get all your PC software transferred to 3.5" disks. The only need for a 5.25" drive would be to boot and run copy protected software.

Tsk, Tsk, Atari!

Surprise! You can read PC disks under TOS. Click on the drive icon and a directory will be displayed. Change from icons to text, or view by type, and it all works. Click on a text file and it will display on your screen or print. Here is an example of the ST-IBM compatibility. I had trouble printing several DOC files from a PC disk magazine with DOS. The paper feed wouldn't advance, and when displayed to the screen, the text wouldn't scroll. A single line window was displayed at the bottom of the screen, and all text was scrolled through this thin window. Next, TOS was tried, but the same single line window was displayed. Then the DOC files were loaded into ST WRITER. A perfect display was produced, and all lines had terminating carriage returns. The text printed perfectly. These files were saved as SIW files for future use. You can bring home IBM 5.25" disks from the office and use them with your ST word processing software. This ST facility has been there all the time. Tsk, Tsk Atari! You didn't tell us. But this will only work for ASCII files. The equality ends there because DOS is less catholic -- it cannot read TOS disks. However, you can drag ASCII files on the GEM disk directory to copy them to your DOS formatted disk. Take the disk to work and use it in your PC.

Alternatives to DOS Commands

For those who tire of command driven systems, PC BOSS (shareware) is a nice utility to have. It presents a menu for most of the copy, format, delete, and file select commands which can be executed with the Function Keys. Disk directories are displayed on the bottom half of the screen, and you can move through the files with a cursor. As a file is highlighted, full information is displayed in a window. Where multiple files must be selected, F10 can be used to highlight each of the files. It's not GEM, but it beats keyboarding commands. If you want this menu to display on boot-up in lieu of the A> prompt, put the PCBOSS.COM file on your DOS disk and then enter the following:

```
COPY CON AUTOEXEC.BAT      [RET]
PCBOSS                      [F6][RET]
```


Similar to creating CONFIG.SYS, this establishes a batch file that executes on boot-up. Any DOS command or string of commands can be put into this file for auto execution. A nice macro facility.

A final word on DOS commands. As you may be aware, some are loaded on boot-up and become resident while others remain external. Resident or internal commands such as DIR and COPY can be executed without a DOS system disk in the prompt-drive. External commands must be loaded from the system disk and it must be in the drive shown by the prompt. Which commands are which? Take a directory of your system disk. All the COM files such as FORMAT, DISKCOPY, ASSIGN, etc. are external. Additionally, all EXE files are loaded on boot-up and are also resident throughout a session.

Setting Monitor Colors

Like you, I too am perplexed. I have five articles on "secrets of the GEM DESKTOP.INF file". All of them tell you that line #c controls the monitor colors, and that there are 16 sets of numbers, three digits each for the RGB values. End of secrets for colors. The *pc-ditto* Colors Menu raises the question again, Which sets of numbers, i.e the first, second, third, etc., actually control colors of the screen, character display, window border, and whatever?

Here's a partial answer beginning with *pc-ditto*. Since most will be using an 80-column text display, go to that line on the Color Menu screen. The first box controls the screen or background color, the second is for color of the character or text display, the third for character display on an alternate screen, and the fourth and last box is for color of the PC cursor. The colors for these four boxes are chosen from settings for any four of the sixteen boxes shown for the 40 column mode. For example, pick the first four of these boxes, make the following color settings, and then assign these box numbers to the four 80-column boxes:

Box	Description	No.	Color
1	Screen	057	Baby Blue
2	Characters	777	White
3	Alt. screen chars	777	White
4	PC Cursor	004	Dark Blue

This will produce a pleasing monitor display. Depending on your perspective, it's representative of the Big Blue or of the Tar Heels from North Carolina.

For further illumination on this subject, which is shrouded by a cloak of silence from Atari, *STlog*, *STart*, *Compute ST*, and books on

GEM, go to your Control Panel Accessory in either low or medium resolution. The two rows of boxes on the color panel control displays as follows. On the first row, the first box sets the border or color of the frame surrounding the main screen as well as background of the icons and the mouse pointer. It also contributes a tonal cast to the main screen. The second box sets the cursor color and inverse highlights. On the second row, the first box controls the character display and outlines drawn around icons and windows. The second box sets the main screen color. Beyond that, and like many of you, I need help!

Work with the RGB sliders on the Control Panel and observe how colors are derived from the settings. Note the numbers between 0 and 7 that mix and make the colors. Then go to your local art store and get a copy of the Pantone Color Markers chart by Letraset (marketers of *Ready, Set, Go!*). Start matching these color swatches to your screen display and note the three RGB numbers for each of the colors and tints. *NEOchrome* is also very helpful for selecting colors and matching them to this color chart. This chart will make an excellent reference tool for using *NEO*, *Degas*, and other painting tools.

Jumping back to the desktop information file, the first four sets of RGB numbers match up with the control panel as follows: border/icon background; characters; cursor; and fourth -- the main screen. I hope this will stimulate an expert to unravel the mysteries for the remaining 12 boxes on the Control Panel as well as the *pc-ditto* menu.

Further Reading on MS-DOS

By far the handiest and most up-to-date reference on MS-DOS is the Quick Reference to MS DOS Commands from Microsoft by Van Wolverton. It's a slender 4 x 11 inch booklet and worth its \$4.95 price at most book stores. The commands and uses are presented in alphabetical order, and there are sections on batch, configuration, and edit line (edlin) commands. It is very expensive to republish larger books on the latest versions of MS DOS; so those that cover DOS 3.2 and 3.3 are scarce. Beware of those that make reference to DOS 3.X. Generally they are sketchy even for 3.1. Look in the index for DRIVEPARM and XCOPY. These commands were new in DOS 3.2, and there is a chance that the book is fairly current.

DOS: The Complete Reference by Kris Jamsa is one of the few if not the only large book that is current, and it is complete. Chapters address clusters of related commands, DOS functions, and other useful topics such as Microsoft Windows and a definitive section on the meaning of DOS error

(Continued on Page 50)

ULTRACALC

The Ultimate Calculator

Review by Donald C. Lyles

The New American Webster Dictionary describes the word "ultra" as meaning beyond the ordinary; extreme; superlative. Adding this adjective to the abbreviated form of the word calculator (calc), you obtain ULTRACALC.

It seems as though my quest for a calculator program is never satisfied. Well, I have to rethink on that matter now that I have had an opportunity to review *ULTRACALC*.

First of all let me describe it. *ULTRACALC* is a good ST based calculator; functional either as an accessory or as a stand-alone program. It runs on any ST system and is provided in two versions, one for color and the other for mono. The type of calculations that *ULTRACALC* performs seems infinite. *ULTRACALC* is actually two types of calculators in one. It is of course a scientific calculator, the type with which most of us are familiar. Secondly it is a full-function programmer's calculator. What does this all mean?

First let's look at the scientific portion of *ULTRACALC*. You can calculate to your hearts content, or specifically up to 15 digits and to an exponential range of plus or minus ten and raise a number to the 308th power. Could anyone short of Einstein ask for anything more? In the "standard" mode of the scientific calculator, you can perform operations including logarithms, square roots, exponentials and reciprocals. In the integer mode you increase your capabilities to include conversions between decimal, hexadecimal, binary and octagonal.

Moving into the second half of *ULTRACALC*, in the standard mode you have available to you the use of the functions of trigonometry i.e. sine, cosine, tangent, etc. Further, you can do calculations including radius and conversions from Cartesian to Polar and vice versa.

There are certain constants that are included in *ULTRACALC*; they include such values as the speed of light, gravity, elementary charge, molar gas, and Avogadro's. All pretty heavy stuff.

In order to know which functions are available to you at what specific juncture, *ULTRACALC* darkens the text of the available integer/operation assessable to the user.

Additionally, the program can be executed by use of either the mouse or the keypad (definitely an advantage to those of us who want the calculator feel). The sizing area of the gem desktop is used as a clear button or conversely you can hit the escape key on the key board.

ULTRACALC is an all encompassing calculator program which is relatively small in size; in the desktop accessory format it is only 43k and in the stand alone program it weighs in at a mere 53k. Program instructions are contained on a separate disk and must be dropped to a printer if a hard copy is desired.

Recommendation, if you need a full service calculator *ULTRACALC* is the one to go with.

[\$24.95, Stone Age Software Inc., P.O. Box 1216, Amherst, NH 03031]

MS-DOS ON THE ST, PART II (Continued)

statements. It is primarily an encyclopedia rather than a quick reference tool. A command is discussed in so many places that multiple pages must be examined to answer your question. But it is thorough.

Jonathan Kamin's *MS DOS: Power User's Guide* (Sybex) takes you deeper into DOS to exploit some of its many features such as batch file programming, hard disk management, use of RAM disks, and discussions of useful editors, macro recorders, toolkits, and other utilities. This one is relatively current and its meant to be read in sections rather than used as a quick reference.

Chris DeVoney's *MS DOS User's Guide*, 2nd Edition from Que, is also an excellent and useful book. Although it does not cover 3.2, it is well written and has a reference section with commands in alphabetical order and only one command discussed per page. These books are among the best.

Happy PCing. It leaves you with an even happier appreciation of STing.

Atari ST Price List

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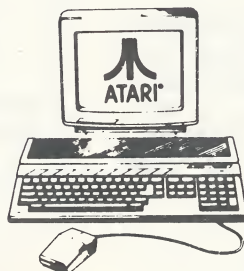
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ARTWORX TRUMPED MY ACE

With BRIDGE 5.0

Review by Robert W. Ford

The April issue of CN contained my review of *BRIDGE 4.0* by Artworx Software Company. I liked the software and had only a minor criticism. You had to load ST BASIC first. It took too much time to load basic and to load and run the *BRIDGE 4.0* program.

One Saturday on returning from playing golf, I found a large envelop from CN which contained *BRIDGE 5.0* (\$29.95) with a request that I also review it. Next to golf, I love to play bridge, but I don't have a foursome for bridge. Never mind for I now have an excellent program in which I am joined by my ST partner against two computer opponents.

The program is much improved both with respect to graphics and ease of loading. Now you just boot with the disk and click on the right ".PRG", depending on whether you have a color or monochrome monitor. It now loads fast. The playing of the game is just as with *BRIDGE 4.0*, but it looks better due to improved graphics.

When the program is loaded, you are presented with several options from the main menu. Just click on the option you want. The "Set Up A Hand" option allows you to set up a predetermined hand by using the mouse to point and click on cards for each player. The program will sort the cards when all 52 have been selected. When you are finished playing the hand, you can save it by using the "Save Hand" option.

The "Load/Save Hand" option is mouse-driven, but you can only save a hand after playing it. Hands should be saved to a separate data disk. By choosing the "Opening Hand" option, you are dealt a hand with at least 13, 17 or 22 points, which ever you choose. There is also the "Play" and "Quit" options.

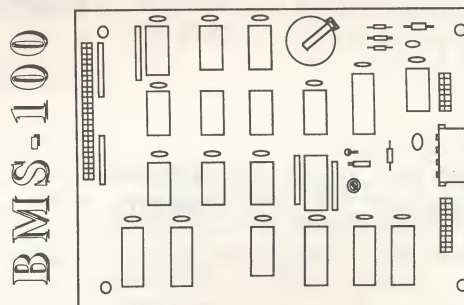
BRIDGE 5.0 shuffles the cards using the computers random number generator and provided almost an unlimited number of hands to play. Bidding is Standard American with five card major opening bids. The Stayman convention is used in response to 1 notrump opening bids and the program also responds to the Blackwood convention. To bid, simple move the mouse to the bidding control panel and click on what you want. You can have the computer bid for you by clicking on the "Auto" choice.

BRIDGE 5.0 is a great way for the beginning bridge player to learn to play bridge. However, the novice must have some basic knowledge of bridge. Artworx does have *COMPUBRIDGE*, a program for someone who has never played bridge before or anyone wishing to improve. I have not reviewed it however. The more advance player can have a challenging *BRIDGE 5.0* game without having to find three other players.

I have again only one criticism. The program is copy protected. I do understand that software developers are concerned about piracy. If we do not support a new software, or if we steal it, we the ST user will loose in the end. But, I do wish we could make ourselves a needed backup copy. Notwithstanding, I like *BRIDGE 5.0*.

[ARTWORX, 1844 Penfield Road, Penfield, N.Y. 14526, (800)828-6573, \$29.95]

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MATHTALK FRACTIONS

A Little Talk Offers A Lot of Help in A Tough Area

Review by Bill Moes

Fractions, decimals, and percents can be a challenge to math students in grades 4-8. (And they remain a challenge to some of us who left those grades a long time ago.) After dealing with and trying to master the complexities of whole numbers, children often see the study of fractions as the study of something from another world. What worked for the whole numbers doesn't seem to matter much anymore. There are new rules for those little aliens (the fractions, not the kids). A touch of frustration can set in. Once that hits, learning becomes even more difficult.

MathTalk Fractions is designed to prevent the frustration and to develop the understanding. It does so using software synthesized speech to encourage and a variety of activities to help the learning. It's well done.

A quick introduction is available to show how fractions or mixed numbers up to $99\frac{99}{100}$ and decimals up to 99.999 are to be entered from the Atari ST's keypad or number row. Then the menu screen is shown and, after tracking down some paper and a pen to scratch out the toughies, you'll set the direction.

Problem Factory. Interested in a quick way to check that homework assignment? Here it is. Enter decimal or fraction problems and the answer you've previously determined. If you're correct, on to the next. If not, you'll have another two chances to enter an answer. A clue is offered after the second mistake. Then the correct answer will be shown. While few children will sit down and enter problems for the fun of it (yours are different?), this is a very useful and appropriate way to check completed assignments.

Fraction Shuffle. Card games are always fun. This activity takes a child's interest in cards and deals a game. You're shown the beginning of a problem and given the chance to wager points on your solution. Twelve cards are shown face down and, after the wager, you'll select a card which gives the second number in the problem. Then enter the answer. If it's correct, your winnings increase by the wager; if not, they're lost. Go broke and it's over. No I.O.U's allowed. If you beat the disk's high score, save your own score and initials. All four operations (+, -, x, /) will show up. It's fun and quick.

Fun House. The relationship of fractions to decimals to percents is usually a bit abstract to many students. Trying to figure out that " $\frac{2}{5}$ equals 0.40 equals 40%" is not seen by kids as the way to spend days of innocence. Games help. Here are three games giving encouragement. (1.) Popper offers three levels in a dart throw: solve the problem and the balloon is popped. (2.) Coin Drop gives kids the chance to estimate the probability of heads or tails on a selected number of coin drops. Each call is randomly made so, although there's no perfect answer, the laws of probability are evident. After the drops are over, you're asked to name the fraction for the number of times the coin came up heads or tails. Then the fraction needs to be changed into a percentage. By entering the number of coins to be dropped, students generally set the level of difficulty. (3.) Laser has sections of rectangles shaded. Name the fractional equivalent in this game of three levels. Higher levels will also include other types of problems. After all three games are played, a bonus round. Then, if you've beaten the disk's high score, your initials may be entered with your score.

Team Challenge. It's you against the opposing three-person team. You can select your opponents and they cover quite a spectrum of math talent (Kent Wynn to Ace A. Point). The problems, from one of three levels, are an entertaining mixture of many types and demand skill in several related areas. The contest starts and the problem is given. If you beat the other team to the buzzer, you'll have a few seconds to enter your answer. Take too long or give the wrong answer in this fast-moving contest and the other side has a chance.

While screens in *MathTalk Fractions* take a few seconds to be displayed, music or sound effects are usually there and the wait doesn't seem that big a problem. The synthesized speech is used primarily as a moderator. The words spoken will often be printed on the screen. Correctly, fractional answers must be in simplest form and percentage answers must include the percent (%) sign. You can reset the saved high scores, if you wish.

The program is extremely well-organized, with clear and correct design choices made in the goals and the paths to those goals. The program

has a feeling of smoothness that was not always evident in this company's earlier releases. There is some animation on the medium resolution screens and the colors used are bright.

The documentation for this \$49.95 package is a 35-page booklet which explains the different activities in the program. The booklet also shows how various types of fraction, decimal, or percent problems are solved. While this section won't replace school lessons, it is good for a quick reminder. A glossary of math terms is included along with a set of 29 problem teasers for the teasable.

The speech synthesis is the same as that on earlier First Byte releases (QN ST Library disk 106). Mark Schott, VP Sales and Marketing, stated that First Byte's speech synthesis, which uses an analog voice, cannot be dramatically improved because the Atari ST does not currently have a built-in DAC (digital to analog converter). Schott added that those familiar with the technical aspects will probably find the synthesized speech quality quite remarkable.

MathTalk Fractions is not copy protected and the publisher has removed protection on its other releases. If you have a copy protected disk from

First Byte, you can obtain an unprotected one without charge. Although their products are now distributed by Electronic Arts, support comes from First Byte directly.

No copy protection, a toll-free phone line, quick response to inquiries, and updates to incorporate suggestions from purchasers: all of these point toward a commitment to take its responsibilities -- and its customers -- seriously. First Byte, which lists eight titles available for the ST, now has three more being developed for release early next year. They are: *First Numbers*, *First Stories*, and *Discovering Dinosaurs*.

So *MathTalk Fractions* is a good one. The ability to enter and quickly check daily assignments will help all. The games and contests, with their levels of difficulty, promote valuable learning in an entertaining setting. And the speech synthesis should help hold the attention of those with nomadic tendencies. *MathTalk Fractions*, useable over a number of school years, deals with difficult concepts. It deals some winning numbers.

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DESKCART!

Memory Free Accessories

Review by Frank Sommers

One of America's most prolific word producers as a TV show host, author, columnist, magazine publisher and author of several books, who dictates his material while being driven around New York City or enters it on his computer in his winter home in Switzerland, William Buckley, has announced that without *SIDEKICK* for his IBM computer he couldn't meet his deadlines. For those of you without an IBM, but who aspire to be as productive as Buckley, the arrival of *DeskCart!* for the ST should set your church tower bell to ringing.

As a cartridge (\$99.95) that plugs into the slot on the left side of your ST, the almost 2" square, less than one-inch-high gray box is crammed with goodies. Quantum MicroSystems has certainly packed the box (Phone:(315) 451-7747). One of the first you leap to is "TYPWRITER". Press the mouse and there at the bottom of the screen is a neat inch-high row across the screen that permits you to type a line, press return and have it printed to the page, envelope, note paper, label, etc.,. Should you choose, with tabs, you can set margins and line by line type out a short letter. Speedy indeed, if its an item you don't need to save to disk.

But what of the other 14 accessories, including one, "DESK UTILITIES", which in itself contains five gem desktop functions: copy, format, delete, rename, and status. The unique feature of them all is that unlike other accessories they take up no memory! Yes, no memory. They are self-contained in the cartridge.

The most useful of them will obviously depend on your individual needs, be it the card file, the address book, the appointment calendar, or the keyboard macros. For single drive owners the ram disk control may even outweigh the others -- the print spooler, control panel, memory test, or screen dump and utilities. Most are functional when you boot your startup disk, i.e. easily understood and immediately usable, if you have had previous computer experience. But even for the initiated, those accessories with data base functions, i.e. the address book, card file, and calendar with its appointment feature, will deserve a careful reading of the three pages allotted to data base commands in the sparsely written relatively clear 41-page pamphlet.

Part of the need for reading the documentation will be to ferret out and test the hidden jewels. One is the "!" you can place at the beginning of subject line for a day's appointment. When you turn on your computer for that day, an alarm should sound, signaling a meeting of consequence. If you're running a non-Gem program and the appointment is for later in the day, the bell should ring thru your monitor speaker and as soon as you return to the Desk Top, the appointment will be displayed. Unfortunately, though the display appears, the alarm does not sound; an update will correct this so be certain to return your warranty cards.

Part of the joy of *SIDEKICK* is the electric pad where you can jot the genius of the moment, the thoughts that are so exciting they often leave you before you can return to them. Often these are the very ones that might have made you a top-ten author or a firebrand in the local newspapers op ed page. Separate Note Book files, 12 note book screens in length, can be stored and reloaded as you wish, e.g one for ideas for new articles, one for additions to the one you might be working on, or calls to make, or letters to write. One of Note Books better features is the ability to come and go without reloading by merely clicking on the close button. As with all of the indexed accessories (calendar, notebook, address book), read the *DeskCart* manual to insure that when you exit the accessory you don't inadvertently lose your entry. This happens quite easily in the Appointment Book if you don't click on the "Add" function before you go on to other work.

The calculator is a multi-function scientific or programmer's calculator and will be indispensable to certain of you. The address book not only puts your addresses into a data base that can be searched by last name, zip, city, but it also has a field for two phone numbers, and those of you with a modem can dial directly from your computer phone lists.

The sum of the 19 parts? Fine accessories, always there, memory free, and collectively they only occupy one of your six accessory slots on the desk top.

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DISCACHE

The Premier Disk Cache Program for the Atari ST

Review by Milt Creighton

Disk caches are not for everyone. In fact, until six months ago, I thought I would never have a use for one. When I got my hard drive, I was so impressed with its speed compared to my floppy drives, it was a long time before the inevitable inflation of expectation took over and I began to look into ways of speeding up its operation. When I stumbled across the first software cache system, I bought it because I was under the impression it would increase the read/write time of my hard drive. It does, but only under certain conditions.

Caches are blocks of RAM that have been allocated to increase the efficiency of operation of a disk drive. The RAM of the cache holds data which has been read by the disk drive, eliminating the need for an application program to go back to the disk to access the same information. The time saved can be impressive, resulting in an effective speed increase of 200 times in some drives. Of course, the data must first be placed in the cache. That means the first time a track is read, there is no increase in the speed of the drive. Each subsequent access of the same track, however, will result in a time savings because the data will be accessed from RAM and not from the physical drive.

Caches operate on the principle of first-in, first out, so that the most recent data read into the cache will replace the oldest data resident. Obviously, the effectiveness of a disk cache will then depend, among other things, on the size of the cache. How much is enough? Very hard to say, and will depend on your application.

Most games will have little, if any, use for a disk cache system. Some, such as *UNIVERSE II* (with disks B & C on the same double-sided disk), require quite a lot of disk access, might better be run from a RAM disk, though the cache system would provide better protection for your data.

Application programs such as word processors should experience somewhat faster operations in opening and saving text files, particularly after accessing the same file more than once. Still, very large text files will require larger cache sizes. Word processors which used disks as virtual memory devices would have made very good use of such a system, but most ST word processors are not disk intensive, except for special

features such as some spelling checkers and the occasional thesaurus. In that vein, spelling checkers and thesauruses are very good items to place in a cache.

There are currently several disk cache programs on the market for ST computers. The first was *HARD DISK ACCELERATOR* by David Beckemeyer, closely followed by MichTron's *M-Cache*. I have used *HARD DISK ACCELERATOR* for months and found it to be useful; it did speed up the operation of my hard drive noticeably. However, it only works on hard drives, though you can assign RAM to more than one partition. Another limitation is the maximum amount of RAM you can assign to the cache (64K), and you cannot assign different size caches to different partitions. Still, it was effective and useful. I cannot comment on the MichTron program, as I have never used it.

DISCACHE by Angen, Incorporated, however, is a substantial improvement over *HARD DISK ACCELERATOR*. For one thing, *DISCACHE* works on both hard and floppy drives, making the cache option available for ST owners who do not own hard drives. In addition, *DISCACHE* permits the user to assign different size caches to each drive or partition, so you could assign a 32K cache to floppy drive A, 64K to floppy drive B, 128K to partition C, and 256K to partition D. Of course, what size cache you assign to a particular disk drive or partition is heavily dependent upon what sort of software you intend to run. Compilers would tend to need large-size caches (maybe 256K or more) while normal run-of-the-mill disk operations would rarely need more than 64K.

DISCACHE provides the option of booting the cache interactively as well as automatically, useful if you do not want to have the cache program on your boot disk. *DISCACHE* has other interesting features which improve the efficiency of its operation. For example, once a data file is placed in the cache, it will only write changes in the file back to the disk rather than the entire file, saving time in the process. The key to such operations is that the cache be large enough to hold the entire data file to take advantage of this program. If it is not,

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WORDWRITER ST

The Upgrade

Review by Milt Creighton

In November last year I wrote a review of *WORDWRITER ST* for *CURRENT NOTES*. In that review I waxed eloquent about its features and dubbed it the ultimate among the first generation word processors for the ST machines. How times change and certain things remain the same.

Since that review there have been a raft of other programs to hit the market, many of them full-featured word processors such as *REGENT WORD II*, and the ill-fated *HABAWRITER II*. Some of these new programs eroded the position *WORDWRITER* had established atop the heap. In that earlier review I also looked to the release of the mighty second generation word processing programs (those that incorporate multifont text and possibly graphics within a single document) to eventually supplant the first generation word processors.

Here we are nearly a year later and none of those programs have materialized; *PAPERCLIP ELITE* and *WORDPERFECT* are still out there on the distant horizon and still are to be released RSN (real soon now). In the meantime, *WORDWRITER ST* remains one of the two word processors I use most often (the other being *SIWriter*).

And now Timeworks has done it again. They have taken a good, useful full-featured word processor and improved it. The addition of an on-line thesaurus and a form letter capability along with fixes to most of the complaints about the basic program have placed *WORDWRITER* firmly atop the heap once more. For my money, there just is no better word processor on the market for the ST right now.

That is not to say I have no complaints, after all we all reserve the right to be smarter today than we were yesterday (and more demanding too). Inflation of expectation among the buying public is a painful reality for software developers. Of course, they really have no one to blame but themselves, for they are forever educating us to expect more. Each new feature, each new improvement in style and structure quickly becomes part of the programming mythos and sets a higher standard for the next iteration.

In months of using this program and then recently incorporating the revision, I find I do have some reservations. First and foremost, *WORDWRITER ST* is slow, particularly if you work

with big files as I do. By big, I mean 50,000 words or more although the lack of speed tends to show even in much smaller files and by slow, I mean compared to *SIWriter*. I find it maddening not to be able to go to a selected page in my document, or even to be able to flip rapidly from one page to another. The slow page flipping can be laid at the feet of the GEM desktop so I have some hope the fabled blitter chip (to be released RSN) will eventually lead to a fix of that problem. But the inherent slowness of the basic program is almost certainly a direct corollary of its portability from one microprocessor to another. The C language may be the universal porter, but it steps along at its own deliberate pace.

As for the other drawbacks of the program, some are still there. You still only get single-line headers and footers. I frankly do not understand why this was not corrected in the revised version. Single-line headers and footers may be more than adequate for home use, but they are a real drawback for professional writers. Also, there is still no provision for macro operation, but I am gradually learning to grit my teeth and bear that one. I suppose I could integrate *THUNDER* as a macro desk accessory, but that seems like taking out a fly with a bazooka in view of the fact that *WORDWRITER* has its own spelling checker. Still no double-column capability either, but that one is a little easier to forgive. Of course, that means I am writing this review with *SIWriter* instead of *WORDWRITER*, but that should only bother the purists among us.

You can still create ASCII files with *WORDWRITER ST*. Unfortunately, Timeworks has not seen fit to include an accessory to convert ASCII files to *WORDWRITER* format. You can load an ASCII file but you cannot reformat it. There two public domain utilities available which will work (after a fashion) but neither one does that good a job. The one I use is called *ASCTO1ST.PR* and is available from most bulletin boards.

For the few complaints I have about *WORDWRITER*, there are very many good things to say. Most of the compliments which relate to the basic program, I covered in the December 86

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ROADWAR 2000

Automotive Mayhem After the Bomb

Review by Robert Millard

Scores of motor vehicles will be demolished, and hundreds of thousands of recruits will be gunned down accomplishing *ROADWAR 2000*'s mission. But the player will quickly learn that in SSI's version of a post-nuclear holocaust North America, a successful road gang leader is not an Uzi-wielding commando but a pencil lead-slinging comptroller. With its tactical combat feature somewhat reminiscent of the ultra-violence in the Mad Max film trilogy, *ROADWAR 2000* brings the computer role-playing game out of its usual domain of the mythical past, to see if gamers will be as intrigued with the mythical (hopefully) future.

ROADWAR 2000 may be the user-friendliest adventure ever. To begin, the player simply types in a name for his gang. A truck icon will then appear on a scrolling map of the continental United States, Mexico, Canada, and the Bahamas. Terrain consists mostly of roads, mountains, deserts, forests, and oilfields, dotted by 120 city icons. The right third of the screen will list fourteen important game statistics, including four that require constant maintenance while getting started: fuel, food, people, and vehicles. This is where the comptroller quip applies. The player must carefully balance these four items to operate smoothly. Fuel and food are obtained by looting; people and vehicles are acquired by searching. The gang, nameless numbers distinguished only by rank, should be built up to one or two hundred as quickly as possible. Frequent saves are necessary, but they can be made to the game disk in less than ten seconds, after which play continues as before. If the player's gang dies, it is not written to disk, so the former position can be restored quickly, too. Mapping isn't necessary, and the manual includes a section for jotting down notes about each city. Rounding out *ROADWAR 2000*'s playability features are a locked out menu bar, a lack of copy-protection, and the pleasant fact that virtually no disk access occurs during play.

In the beginning, the objective is simply to survive while taking over cities. Early survival depends upon staying put in a city that is controlled by a relatively weak faction, such as the national guard, gangsters, or bureaucrats. If a location is found to be controlled by the mob or by the invaders (obviously communists of

unspecified nationality), get out of town! Cities can only be explored abstractly; there are no detailed, scrolling avenues with buildings to enter and investigate. The player explores by continually pressing keys to look for supplies or search for people and vehicles. Text or windows then display the result. As two of the principal play dynamics, looting and searching are tedious actions. From time to time, mutants, cannibals, or the town's controlling faction will attack. This aspect is also handled abstractly, and is strictly a passive numbers game. The gamer cannot seek out these adversaries; their name and numbers simply appear randomly in a small window to the sound of machine gun fire as the outcome of battle is awaited. The morbidity factor in *ROADWAR 2000* rivals that of some strategic war games, so considerable playing time is spent searching for recruits. Encounters with cannibals and mutants offer no spoils, but after several victorious battles with the controlling faction, the player will take over the city. Over twenty cities must become part of your empire before the game's objectives become more specific.

The plot actually begins when a government agent makes contact via text window. As the player should have already learned from the documentation, there are eight scientists that must be found and returned to the city where the Government Underground Biolab is secreted. Together they will develop a vaccine for a deadly bacterium still prevalent after a nuclear and biological war. Occasionally an agent will relate a scientist's general location, and the Biolab will provide a special radio to track the last two. And then it ends. The plot reads well in the documentation, but its execution lacks depth. The "feel" evoked by a Sundog or an Ultima just isn't there.

What *ROADWAR 2000* lacks compared to the classics of this genre is nearly compensated for by one fabulous feature: detailed tactical combat. These battles are fought on scrolling, generated maps with terrain factors, limited vision, and encumbrances according to the gang's position on the continental map. Urban battles are fought on blocks and blocks of two-lane streets; off-road encounters display trees and lakes; oilfield skirmishes reveal derricks and mud. Most battles, though, occur on eight-lane

highways checkered with wrecked cars. The gang's vehicles must be deployed on the tactical map, after which movement and fire phases occur in turns to the bitter end. A view mode, borrowed from Kampfgruppe, illuminates potential targets. Graphics are not spectacular by sixteen-bit standards, but they are infinitely better than the stark eight-bit versions. Color is nicely employed to differentiate vehicles. There are nineteen vehicle types in *ROADWAR 2000*, from motorcycles and sidecars to construction vehicles and eighteen-wheelers. All vehicles are rated for several movement factors, structure (a vital factor reduced by collisions), crew and supply capacities, and fuel usage. Tire-burning tyros start with a few small vehicles, and can acquire up to fifteen during the game. Rival gangs often have colorful names (Muthuh Truckers, Hot Rod Lincolns), and reflect indigenous culture (California biker gangs, dune buggy gangs). The game seems to grade enemy strength to the player's gang, and perhaps does this too well—desperate battles against poor odds are rarely fought. Nonetheless, the tactical combat option is exciting, and the concept works within the genre. Offensive options are limited to ramming vehicles and firing guns. Gunfire may be aimed at the enemy's tires, at the crew within a vehicle, or at the kamikazes riding atop a vehicle. Abstract, hand-to-hand fighting may occur in juxtaposed vehicles, but is not a major factor.

Since each detailed combat takes ten to twenty minutes, a quick combat option is included. Target priorities and ramming factors are selected; the computer then takes over, describing each side's offensive actions. Evelyn Wood graduate work is recommended to keep up with the flow of information, even in the game's slow mode. In fact, even the enemy description used to decide on the mode of combat appears too briefly. This reviewer often chose quick combat, reserving detailed combat for the toughest foes. A third option, abstract combat, is ultra-fast, but losses are usually severe.

Lately, reviewers of computer role-playing games have criticized the genre as being formulaic. Graphics and sound have improved, but not depth. With this in mind, designer Jeff Johnson (Six-gun Shootout, Nam) deserves credit for trying to break the mold. *ROADWAR 2000* is definitely different. But the game's exploration and discovery aspects are weak. Still, *ROADWAR 2000* and the forthcoming Wizard's Crown offer a combat option that could well be considered a second, separate game within the package. And, perhaps, the better of the two.

WORDWRITER UPDATE

(Continued from page 60)

issue of *CURRENT NOTES* so I will not repeat them here. The praise I will level at Timeworks in this review is directed at the enhancements they have made in the revised version of the program.

First, there is now an on-line thesaurus. I am pretty impressed with it too. It is not loaded into RAM (thank goodness, since even with a 1 meg machine, the program with its in-RAM spelling checker is pretty memory hungry) but it works well with a hard disk. There may be some who complain about the disk access time if loaded from floppies, but now you know the fix is a hard disk. That is something else Timeworks has done well to improve. There is now an option to allow you to set the path for the spelling checker, the thesaurus, and the help files. Thank you, Timeworks, thank you. In the previous incarnation of this program, one could place the basic *WORDWRITER ST* program on one's hard drive but whenever one attempted to access the help files or the dictionary, the path always led unerringly to Drive A. And there you were, back to using the program at the access speed of your floppy drive, not exactly a nail-biting bit of excitement.

Timeworks has added a form letter option too. That is a very useful feature in the business world, but the last time my sisters got together and compared letters, its utility was drastically reduced for me. The ability to port (and format) documents from *DATAMANAGER ST* has also been improved. One of the best of the new features, in my humble opinion, is the ability to build a personal dictionary for use with your spelling checker. That improvement eliminates my most bitter complaint in the last review, not that I complained about very much.

The bottom line: The improved version of *WORDWRITER ST* is still the best of the first-generation ST word processors. Its on-line dictionary, thesaurus, and help files are more useful than ever now that they can be put on a hard disk. The new form letter capability will also be a welcome addition for many and the addition of an expandable personal dictionary for use with the spelling checker increases the overall utility of the program. The drawbacks of this program are its lack of speed, lack of a designed macro capability, and incompatibility with the few commercially designed desktop macro programs. In addition, it also lacks multi-line headers and footers, and a double-column capability. Still, even with our inflated expectations of what a good word processor should be, *WORDWRITER ST* is currently the best.

GOING ONLINE

By Ed Seward

INTERLINK ST

For a change I am not going to do a batch comparison of terminal software for the ST. Before I take an indepth look at the features of *INTERLINK* let me give you a quick overview of what makes *INTERLINK* different.

A Glance at INTERLINK

As is getting to be common with programs requiring high speed character display in the GEM environment, *INTERLINK* uses two screens. The terminal screen is a TOS-type screen with a status line at the bottom. The other screen is pure GEM. The directory/file selector box is one of the best I've seen with the file size, time and date stamp displayed with each filename. Instead of the "DO" commands, the program "RECORD"s the mouse movements, key entries and characters received to automate the various processes. The buffer editor has quite a few features including the usual block commands. All the current settings and status information are displayed in a block at the bottom of the GEM screen. I should also mention the remote operation (limited BBS) built into *INTERLINK*. The remote operation provides for three levels of access with message areas and the ability to send and receive files.

Auto Dialer

The auto dialer provides a list of 20 numbers which can be reloaded from a file of your choice. For each number/button in the dialer, one can select different modem prefixes and suffixes, RS232 configurations, screen style and auto logon. For the auto logon there are provisions for eight expected strings and a response for each.

Two other nice features in the dialer are the AUTO and GROUP buttons. The AUTO button allows one to easily choose whether or not auto redial is desired for a particular number. The GROUP button allows one to select a group of numbers. The numbers will be dialed in sequence until the end of the group is reached or the first connect, whichever occurs first. When the GROUP and AUTO buttons are used, the program will cycle through the list until a connection is made.

The auto log-in and dialer are very easy to set up. There are no commands to be memorized. After setting up the auto log-ins, one just clicks on the desired combination of buttons and

lets it go. But be aware there is another way to accomplish this.

Record Your Actions

When using the AES record function, a new user doesn't need to memorize any commands, Alt-key combinations or constantly refer to the manual to automate repeated processes. (There are 13 Alt-key combinations and 10 function key commands. There are also 20 macros which are easy to edit and can both call a RECORDED function and be included within one.) The PLAYBACK (reverse of RECORD) can be used to replace or supplement the auto log-on portion of the auto dialer. The nice point of this is the program records the characters received before you made your entries and any pauses you may have made.

Lets say that you find that you consistently change the default paths for the upload and download and want to group auto dial the same six (upto 20) BBS'. Assuming the auto dialer is already set up, there is practically no work involved in RECORDING this for PLAYBACK. Click on the RECORD selection in the menu; select a file name; make the desired default path changes; call up the auto dialer; click on the GROUP button; click on the desired BBS'; click on AUTO and then DIAL. That's all there is to it.

Setting the desired time for playing a recording is easy. In the RECORD area of the menu bar are the options PLAY NOW or LATER. If you select the later option, a dialog box with a grandfather clock pops up requesting a desired time to playback the recording.

Files

Besides the informative file selector box discussed earlier, there are several file-related features that make *INTERLINK* stand out: the ability to load in additional file-transfer protocols and terminal emulations. As I write this, batch ymodem is the only additional transfer protocol for loading in (along with the built in ASCII, xmodem and ymodem). There are no loadable terminal translations as yet, though VT100 emulation is in the works. VT52 is the only built in emulation but a translation table is there to use.

Rather than have one default path for everything the program keeps track of multiple paths. The separate paths include: send file path, receive file, and RECORD. It seems like each function that accesses the disk maintains a default path. This means that you can keep your path for the record/playback files set to the appropriate place and upload from or download to another drive or folder.

All the usual disk commands are also in the program: format, print or show a file, rename, copy and delete. All of these are accessed through the menu bar.

Remote Operation

Occasionally you might need access to your computer while away from home or want to allow someone else to transfer some information without your standing over the machine. The remote operation allows three levels of access - no individual accounts. The two lower levels can upload and download files, leave and read messages. The high access can also change the current directory, delete and copy files.

If you take the time to change the passwords, then the time required to have the remote operation up and running the first time is about a minute. While most people won't need the option, it has come in handy for me a couple times.

Weighing The Features

One feature I haven't mentioned is the ability to run other programs from within *INTERLINK*. In most cases this works fine but one thing has caused me some problems. After selecting ARC.TTP, a dialog box comes from within *INTERLINK* to accept the parameters to be passed to ARC. If one cancels out of this, *INTERLINK* crashes (back to the Desktop). If one completes the execution process there is no problem.

There are three other areas that give me negative feelings about *INTERLINK*. I would like to be given the choice of using the record feature or a command language. True, a new or infrequent user will find the record/playback feature much easier than a *FLASH* type command language. However, people like myself can knock out a DO file in less than a minute and occasionally like to fine tune one. The record files cannot be edited and must be completely re-recorded - which admittedly can be done rather easily.

A nice touch is the task completion bell. It is not a bell - it is a short piece of music. This is carried over to a chime every fifteen minutes of connect time.

People who don't want to take the time needed to learn the commands of *FLASH* or may not use their terminal software very much should give *INTERLINK* serious thought.

Which program do I use? *FLASH*, 95 percent of the time and *INTERLINK* for an occasional change of pace.

On The Wires

PC Pursuit is working on adding 2400 baud support to more nodes as well as adding ten more cities to the system before the end of the year.

FLASH version 1.5 should be available about the time you read this.

Despite reports to the contrary in ST-Log, ST-Talk Professional is still not out as of mid-September.

See ya at the ATARIFEST '87 Telecom Room.

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GFL CHAMPIONSHIP FOOTBALL

A Football Simulation(?) Game

Review by John Lauer

It has been a long time since I first asked the question, "Is there any software available or at least in the development stage that will adequately simulate the game of football and run on the Atari ST?" *GFL Championship FOOTBALL* is out and it will run on the ST; though I question whether it adequately simulates the game of football.

Activision has marketed and distributed *GFL FOOTBALL* under the trademark of Gamestar. This is just one game in a series of six that has been developed for Gamestar.

GFL FOOTBALL was released originally for the Commodore 64 and 128 computers. The documentation is written for these computers. There is an addendum provided with the original documentation that addresses the boot-up procedures and the changes that have occurred since porting it to the ST. The documentation itself is fairly well done. The reader can easily follow what is being conveyed, but it helps to have a little previous knowledge of football to bring it all together.

GFL FOOTBALL can be played with two people or against the computer. I would strongly suggest playing it with a friend as the computer tends to be biased towards itself.

After boot-up, *GFL FOOTBALL* will ask whether the game will be played by two people or against the computer. It then asks how long the quarters are to be. The choices are 4 minutes and 7 minutes. This was my first disappointment. The game of football has 15 minute quarters which should have been an option in this game. This immediately made me suspect that there were other areas that would not be simulated correctly or not at all. The player has to select one team out of 28 teams in 4 divisions. If there is a second player then he too must select a team, otherwise you need to select a team that the computer will represent.

The teams are all ranked in comparative strength in eight categories. These categories are quarterback, running back, offensive line, receivers, defensive line, linebackers, defensive backs, and coach. These categories are ranked on a 1 to 3 point system. The computer uses these points to determine the outcome of individual plays as called by the coaches. This by itself is not the overall deciding factor. The offensive player/coach does influence the play execution. He does this through hand/eye/audio coordination. The offensive player/coach controls

the tailback if a running play was chosen or the wide receiver if a passing play was chosen. This concept is suspect as the offense can control the runner or receiver but the defense, whether playing against the computer or another player, must allow the computer to control all the men on defense. The defensive player/coach can only select the defensive plays, but the offensive player/coach selects the offensive play and then controls the execution of the play through the tailback or the wide receiver.

A player/coach has a choice of 36 offensive plays and 12 defensive plays that he can choose from. Unfortunately, the choice of plays are not kept from the view of the opposing player/coach. This is unrealistic as this gives a decided advantage toward the player/coach that selects last. The offense generally chooses first and then the defense can select its play.

There is a 30 second clock that will keep the offensive side from delaying the game. The computer will assess the penalty if this rule is violated. Between plays, a scoreboard is displayed that shows the teams names and their scores along with the time remaining in the quarter and on the 30 second clock. This board also lists all the offensive and defensive plays that the player/coaches selects. Once both selections have been made then the screen reverts to the "out of the helmet view" of one of the offensive players.

As stated earlier, the offensive player/coach can control his tailback or wide receiver. The problem with this approach is that the player/coach must memorize all the offensive passing plays so that he can effectively control the wide receiver. The wide receiver must follow the exact route on a passing play or he will not catch the ball. To effectively maneuver the wide receiver, you must count the steps that he has taken to determine when and where he should go next. Miscounting his steps or directing him in a direction from the pass route selected, guarantees an incomplete pass.

This concept of moving the wide receiver or the tail back with the joystick detracts from the simulation and biases the strategic formulations on both sides. This is further complicated by the shorter periods as strategy is influenced by factors of field position, play execution success rate, and time remaining.

(Continued on page 69)

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GRIDIRON

Football Simulator for Those "No-Game" Days

Review by Robert Millard

Whatever its duration, the NFL players' strike will undoubtedly send many fans looking for a shoulder pad to cry on. ST owners may find better comfort in *GRIDIRON!*, a football game that, though graphically simple, offers considerable verisimilitude. Designed exclusively for the 16-bit machines, Bethesda Softworks' initial offering is 550K dedicated to simulating all of the possible events between two end zones. The game seems to be on its way to hit status, by 16-bit sales standards, and for good reasons.

GRIDIRON! is billed as "the football simulator," and the description is not a loose one. Like *FLIGHT SIMULATOR II*, the program is not graphically impressive until its scope is realized. The viewpoint is from directly overhead, with 65 yards of the field displayed on-screen at once. Scrolling is not employed; rather, the field is quickly redrawn as a play nears either end zone. The width is drawn to a true scale of 50 yards from screen top to bottom, no redrawing needed.

Players are represented austere as black or yellow dots, an initial disappointment to veteran gamers expecting detailed figures. Besides the fact that including animated figures would've required a one meg machine, figures distort scale, so that a field's width as measured by the figure's stride can be reduced to half the true distance. That diminishes play dynamics as well, and playability is *GRIDIRON!*'s main objective. Therefore, to see this ugly duckling as the swan it really is, one needs to run a few plays.

After a snap, all 22 players enact the choreography of football with a realism no previous game approaches. XOR's NFL Challenge, available only for the IBM, has a similar look, but it is a strategy game only. Gridiron's ball handlers follow a cross-hatch pointer controlled by the mouse. On defense, any one of the eleven players can be controlled by clicking on it. Almost any action in football can be recreated graphically by this game -- broken tackles, pulling guards, multiple receiver plays, stunts, several different blitzes, zone and man coverages. And each player has individual skill ratings. In a short time, those dots, moving to the sound of digitized grunts and clashing pads, become quite impressive looking. It only takes a few sets of downs to appreciate the beauty of Gridiron's graphic simplicity.

GRIDIRON! offers enough options to satisfy most gamers, especially where opinions and skills

differ. Games can be twenty, forty, or sixty minutes long. Random penalties and fumbles are optional. There are three game speed levels, and a fourth level best left to those who've passed the NFL's eye-to-hand coordination test. Not that strategy isn't an important aspect of the game; at the higher levels mastery of Gridiron's twenty offensive and twenty defensive plays is essential.

If the gamer doesn't like the standard plays, he can design his own with the play creation utility. The PCU is the most creative fun this non-programmer has had since he tried his hand as a *MEAN 18* course architect. It takes a bit of fine tuning to develop an effective play, but fortunately one's creation can be tested on-field and returned to the PCU without any disk access. Shotgun formations, gadget plays, punt blocks -- almost anything from the real game can be recreated.

If all of these options aren't enough, one can even create custom teams by rating each position for speed and strength on a scale of twenty. A knowledgeable football fan could create the NFL's entire first string, although differences in mouse prowess will slant game results heavily. Individual statistics are not kept, but team stats are updated throughout a game. The two player option utilizes a joystick for defense and requires an exchange of controls when the ball changes hands; it also uses an awkward method for concealing play selection. But these are not major problems. Overall, the game's options extend an already long play life.

No game this ambitious is perfect. As realistic and integral as the running game is, it lacks some of the joystick-jukin' fun previous programs have offered. Long runs seldom occur. (The passing game is fine, though, and its play mechanic of timing a throw to a spot is brilliant.) Gridiron's worst trait is the excessive "huddle time" the computer offense takes, fifteen to twenty seconds, no matter how quickly the defense sets up. Also, it would have been helpful to reveal the computer's play selection after execution. And there is an offensive practice mode that would've been better if it wasn't limited to the slowest speed level. Lastly, at the risk of being pathetic, this reviewer still wishes the game had little animated guys in colored jerseys running their pixel appendages off to catch a pass. But then playability would be sacrificed.

In what may be the marketing blunder of the year, *GRIDIRON!* comes on a double-sided disk. That means single-sided drive owners will have to send their newly purchased disk back to Bethesda Softworks to receive a usable, two-disk version. The company consulted Atari about this prior to release, but wasn't warned against it. Of course, all previous ST games using over 360K have appeared as a two disk package. Hopefully, this problem will not have an overall effect on sales, but it does discourage impulse sales to game junkies who want to play right away. And no, local users cannot drive to Bethesda and make a swap.

The most intimidating defense in *GRIDIRON!* is the one used against piracy. Besides being one of the most heavily copy-protected ST programs to date, *GRIDIRON!* includes six pages of validation tables containing over 2,500 codes, printed on a dark red background to prevent photocopying. A different code must be entered each time the game is loaded.

Designing a good, realistic football game proved to be too great a task with the eight-bit machines. It's taken 16-bit technology and a programmer like Ed Fletcher to deliver a satisfying, playable version of the sport. *GRIDIRON!* may not really cure the football strike blues, but like the real game, it does keep pigskin patrons glued to the tube-- of their monitors, that is.

[Bethesda Softworks, 9208 Burning Tree Road, Bethesda, MD; Phone: (301) 469-7061.]

GFL FOOTBALL (continued from page 66)

The graphics are good but somewhat limited. Gamestar has introduced graphics that represent 'out of the helmet' views of the individual players (three). These views are limited in field of vision and inhibit the offensive player/coaches' play execution. This approach in graphic display denies the player/coaches the ability to view what both teams are doing during play execution.

Gamestar has tried to combine a game of strategy with that of a game requiring hand/eye/audio participation. That concept is not at question. Gamestar was just ineffective at merging these two gaming qualities in this particular program. Additionally, the defensive player/coach should have the same capability as the offensive player/coach in controlling players on the field. The selection of plays should not be revealed to each side prior to the play execution. This inadvertently biases the player/coaches play selections.

GFL FOOTBALL as a football simulation falls short of its intended mark. It is a nice game that will entertain with the backdrop of foot-

ball, but it does not have the sophistication that a football simulation should have. There are no means by which actual NFL teams can be simulated or previous NFL statistics be incorporated to simulate current, past, or hypothetical teams/players.

CLASSIFIED ADS

FOR SALE: ST software in perfect condition with all instructions and packaging: *DEGAS* (\$12); *Printmaster* (\$15); *Witness* (\$15); *Mindshadow* (\$16); *TechMate* (\$15); *Time Bandit* (\$15); *Hippo Camp. Almanac* (\$11); *Oo-Topos* (\$8); *J-Disk* (\$6); Power strip/surge protector (\$10). Contact Kyle Alons, RR 1, Box 17, Boyden, IA, 51234, (712) 725-2543.

ST SOFTWARE FOR SALE. Lot 1 (*H & D Base* (data base language), *Fahrenheit 451* (text game), *Ogre, Leader Board* (with tournament disk), *Skyfox*). Lot 2 (*Barbarian, Little Computer People, Warzone, Fireblaster, Chat*). Lot 3 (*Rogue, Super Huey, Tenth Frame, Star Raiders, Ninja Mission, Hippocspell*). Each lot is \$75 or best offer. All originals with docs. Call Trevor Williams at (703) 437-3316 or (703) 437-0253.

FOR SALE: 1702 Monitor (color), 130XE, Rana disk drive, Okimate 10 printer, 1030 modem, extras, computereyes, also other software. Asking \$450 or best offer. Call Harry at (703) 769-5585 dyas, or (703) 250-4551 evening (until 8:30 pm).

FOR SALE: IMG Scanner \$55. PR Connection with modem and printer cables \$55. *Balance of Power* \$18, *Silent Service* \$12, *Time Bandits* \$12. Bob Reitz, 218 N. Fourth St., Sunbury, PA (717) 286-5901.

FOR SALE: Atari 520ST, single disk drive, no monitor. Includes all manuals and original cartons, dust covers and original system software. TOS in ROM. \$400 or best offer. Call Burgess. (804) 525-1357, after 6:00 p.m.

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ST CHESS

Who is the Strongest?

By John L. Crowll

	WON	LOST	DRAW			
PSION	6	0	2	P	H	C
HUMAN	4	1	3			
CHESSMASTER	4	3	1	T	K	TOTAL
TECHMATE	3	5	0			
KRABAT	0	8	0			

PSION	-	1	2	2	2	7
HUMAN	1	-	1.5	1	2	5.5
CHESSMASTER	0	.5	-	2	2	4.5
TECHMATE	0	1	0	-	2	3
KRABAT	0	0	0	0	-	0

WIN= 1 PT	LOSS= 0 PT	DRAW= .5 PT
-----------	------------	-------------

The world of computer chess is a world full of claims and counter-claims as to who has the best program. Each company presents its own "facts" as to why their product is the best. To the uninitiated, these claims can be confusing and make the choice of which program to spend their hard earned money on a difficult task. This review will present one person's opinion based upon some very time consuming testing and specific criteria. I'm sure that understandably, there will be those who will not agree with all my reasoning.

The first chart above shows overall win, lose, and draw status for all the participants in a chess tournament I held among the various programs available for the ST at the time of this article. I included myself to see how us humans would compare to the masters of the micro-chips. For those who would like to judge my playing abilities, I have a provisional USCF rating of 1225 and have been told by my opponents that I play around the 1500 - 1600 level. The second chart shows the same results in the standard format used by the chess world and more clearly shows the results of each participant against another. As can be clearly seen, *PSION* dominated the other chess programs, not losing a single game. The two draws I had against *PSION* were because I didn't want to take the chance of losing a close game by stretching for a win. *PSION* is a tough cookie and I'll settle for a draw against it any day.

In this tournament each program played white and black once against the other opponents. Each 'player' had two hours to make forty moves in keeping with standard USCF tournaments involving computers. This equates to three minutes per move, a setting which all the programs contained. All options in a program were selected to permit maximum playing strength. All games in which an opponent resigned were still played till a mate was achieved to evaluate total performance. A summary of resignations follows.

KRABAT (black) to PSION on move 39
 KRABAT (black) to CHESSMASTER 2000 on move 22
 CHESSMASTER (black) to PSION on move 55
 CHESSMASTER (white) to PSION on move 44

Before the tournament I knew the real showdown among the programs was going to be between *PSION* and *CHESSMASTER 2000*. I figured from my experiences playing both programs that *PSION* would probably win. I was right, but I was surprised to see how it came about. I expected to see two closely fought endgames in which both sides would be even materially but one would have a positional advantage. Much to my surprise, *PSION* managed to get ahead by three pawns in both games! *PSION* played about as close to the way a human plays in its games against *CHESSMASTER 2000* as any other program I've seen.

CHESSMASTER 2000 played the same way against *TECHMATE* as *PSION* did against *CHESSMASTER 2000*. I think this shows a case for one program having the other programs number. There must be certain openings and positional aspects of games in which the algorithm of one program excels over that of another in the same circumstances. When the programs get into that groove its curtains for one of them. This same situation occurs with humans when 'A' beats 'B' and 'B' beats 'C' but 'A' just never seems to be able to beat 'C'. With humans a lot of this is psychological. What is it with computers?

TECHMATE proved inferior in play to both *PSION* and *CHESSMASTER 2000* and beat KRABAT just like everyone else did. I was in a drawish position with *TECHMATE* in one game but decided to go for a win. I never have believed in draws. My loss to *TECHMATE* was a disappointment but showed me that the computer was the master in those tricky end game positions. It was at this

point that I decided a draw was the better part of valor and that I would not push my luck against *PSIQN* or *CHESSMASTER 2000*, both of which I hold in high regard. Pride was at stake and I was not about to let some micro-chips do in the human brain if I could help it. Fortunately for me, this change in strategy was a good choice.

KRABAT proved to be a very interesting program. KRABAT is a public domain program from West Germany and is fairly nicely packaged. It comes in separate monochrome and color versions, with the color having more features than the monochrome (such as saving a game). It is available through the *Current Notes* ST Library. Although the other programs dispatched it with great ease (the best mate of the tournament being delivered by *TECHMATE* involving a queen sacrifice), it proved to be quite a challenge for me in one of the two games I played against it. As a matter of fact, I think it was the best game I played from the aspect of positional complexities in a game.

My choice of the best chess program available for the ST is based upon two criteria only (assuming all the 'class' programs will let a person save games, which they do). They are: Which program plays the strongest, which should be reflected as the winner of a tournament among the various programs (a point I know several people will take issue with but I don't have the time to play hundreds of games for a proper statistical sampling), and which program plays the strongest game taking the least amount of time per move. This last point is important to me because it means more games can be played in any given amount of time. We humans are an impatient lot.

Based on these criteria only, *PSIQN* is my choice. *PSIQN* can be selected to play at 2, 4, 6, 15, 30, or 45 seconds per move for settings less than one minute. *CHESSMASTER 2000* can be selected to play at 5, 15, or 45 seconds. I feel that at comparative levels below one minute per move *PSIQN* plays better than *CHESSMASTER 2000*. Any chess program can be set up to lose to even the weakest human player (games played during this same time frame at easy and medium strength levels for both programs yielded four losses for the programs). It is the strong program that requires sifting claims to find. I think a USCF rating should be acquired by all chess programs to present solid fact for judgement. Failing a commonly accepted standard, one has only personal opinion.

All this is not to say that *CHESSMASTER 2000* plays a bad game of chess, for it plays very well indeed. It is just that I feel *PSIQN* is stronger. If a person is more interested in

graphics than in perhaps a small percentage increase in playing strength (which I am not), than *CHESSMASTER 2000* would be the hands down choice. Its 2D display leaves *PSIQN*'s in the dust. I think the 3D displays are a gimmick until they are made to look more like a true perspective. I would also recommend buying KRABAT in spite of its dismal showing. At four or eight dollars for one or both versions, three minutes a move will give a satisfactory game.

If anyone desires copies of the 40 tournament games involved send a self-addressed stamped envelope with disk and *PSIQN* or *CHESSMASTER 2000* format specified for program owners or one dollar to cover postage and reproduction costs for those wishing to review the games before purchasing a program to the address below.

John L Crowll
311 Crestfield Court
Charlottesville, Va 22901-9128

* * * * *

DISCACHE

(Continued from page 58)

even consecutive read operations of the same file cannot be efficiently cached, because the beginning of the data file will be written over by data at the end of the file.

In addition, *DISCACHE* provides a scaled down version of the cache program for users with "limited" RAM (read the 520ST). This smaller version is called *DIRCACHE* and caches only single sector reads and writes. It will provide good performance for caches smaller than 32K, and should prove useful for 520ST owners who have one or two floppy drives — though it will also work with a hard disk.

The Bottom Line: *DISCACHE* is the most powerful disk caching system available for ST computers, but like other very useful utilities, you should put in time in study and thought to make the most use of its power. Decisions such as whether to boot the program automatically or interactively, which drives to cache, how much RAM to assign, and the order in which you want to load data files can become very important to use the system effectively. On the other hand, you can also set it up once, install it in your auto folder, and just enjoy the benefits. This is a well designed and implemented program and, unlike other cache programs, will prove just as valuable to users who have one or two floppy drives as it does to users who have both floppy and hard drives.

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NEW MEMBERS: Dues are \$20/year which includes a subscription to CURRENT NOTES. Join at the main meeting, chapter meeting or by sending \$20, payable to NOVATARI, to Earl Lilley, 821 Ninovan Road SE, Vienna, VA 22180.

NOVATARI MAIN MEETING is at the Washington Gas Light Building, 6801 Industrial Road, Springfield, VA. Take 495 to east on Braddock Rd (620) to south on Backlick Rd (617). Left on Industrial Rd. Washington Gas Light is the 2nd building on right.

NOTE: There is no OCTOBER Meeting due to the Atarifest. Come to the Atarifest at Fairfax HS on October 24,25. The November meeting will have a change of schedule. 5:30 Telecom SIG meets in large auditorium for program about changes in BBS procedures. 6:00 there will be ST and 8-bit door prizes, open forum, and announcements. 6:30 ST SIG will meet in large auditorium and 8-bit SIG will meet in the small auditorium. The schedule change will allow the separate SIGs more time for their special interests and programming.

Mt. Vernon / Hybla Valley, 1st Thursday, 7:30.
 Contact Ron Peters at 780-0963.

Sterling, Sterling Library, 7:30-9:30, 1st Wed.
 Contact Wayne Wilt 437-6159.

ATARIFEST BANQUET. After Saturday's fest, there will be a banquet at the Fairfax City Holiday Inn. Guest speakers from the world of Atari will be on hand. Only 120 tickets are available on a first-come first-serve basis. To reserve your space, send a check for \$20, payable to Novatari, and a self-addressed stamped envelope to Andrea Bonham, 3344 Beechtree Lane, Falls Church, VA 22042 (703) 534-3503.

NOMINATIONS are in order. It is time to consider the direction and leadership you want for NOVATARI. If you want to take an active part in the future of Novatari by selecting new officers, please contact the president. Five offices are elective: President, 8-Bit VP, ST VP, Secretary, and Treasurer. The new president will want a chair person for the Atarifest. There have already been two volunteers for the post. Think carefully and let Georgia know what you want.

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Meetings. 1st Thursday. 7:00 pm (library sales). 7:30-9:00 pm (Program) in the Temple Israel Social Hall. Temple Israel is located in Silver Spring, MD at 420 E. University Blvd. between Colesville Rd (Rt 29) and Piney Branch Rd (Md Rt 320). All meetings for the rest of 1987 are on the first Thursday, with the exception of October, when there is no meeting.

Correspondence. All correspondence, including membership renewals, changes of address, etc. should be sent to: AURA, P.O. Box 7761, Silver Spring, MD, 20904. AURA cannot guarantee CURRENT NOTES subscription fulfillment unless the member provides written confirmation of address changes, renewals, etc. to the address given above.

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MEETINGS: 3rd Tuesday, 5:30 - 8:30 pm, room 543, National Science Foundation offices, 1800 G St., NW, Washington, DC. Closest subway stop is Farragut West on the Blue and Orange lines. Building is identified by sign for Madison National Bank on the corner. Front entrance is on west side of 18th between F and G.

NEW MEMBERS: join at meeting or send \$20, payable to NCAUG, to Allen Lerman, 14905 Waterway Dr, Rockville, MD 20853. Membership includes CURRENT NOTES subscription.

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MEETINGS: 3rd Tuesday 7-10PM, Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Entering Woodbridge from either North or South on Route 1, proceed to the intersection of Route 1 and Opitz Blvd. (opposite Woodbridge Lincoln-Mercury). Turn West on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

NEW MEMBERS: Initial membership fee is \$10/yr plus \$1 monthly dues. Join at meeting or send check, payable to WACUG, to Frank W. Bassett, 15313 Blacksmith Terr, Woodbridge, VA 22191.

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NEW MEMBERS: Dues are \$25/year/family. Join at meeting or send check, payable to FACE, to Buddy Smallwood, PO Box 300, Keedysville, MD 21756.

SECRETARY'S REPORT: At the September meeting of FACE, Mike Kerwin showed us the *First Xlent Word Processor*. Buddy Smallwood showed *pc-ditto*, the program that allows you to run IBM programs on your ST. At our October meeting, we plan to have an Executive Board Atarifest meeting. John Maschmeier and Chris Bigelow will be selling T-Shirts for the Atarifest. Dave Karstadt will show us *Seven Cities of Gold*, a graphic adventure game. Mike Kerwin will show us *Form Generator*, and Buddy Smallwood will show us *Maps and Legends* on the ST.

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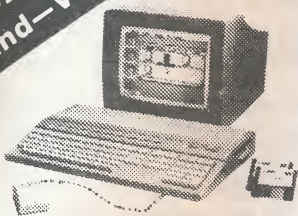
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MEETINGS: MACC meets on the last Tuesday of every month at 6:30 pm at the Pikesville, MD library. Take Baltimore Beltway exit 20 east (Reisterstown Rd) 1 mile. Pikesville Library on the left next to Maryland State Police Barracks. Feel free to call for info on the club's monthly 8-bit and ST demos.

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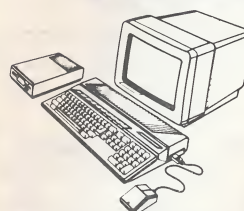


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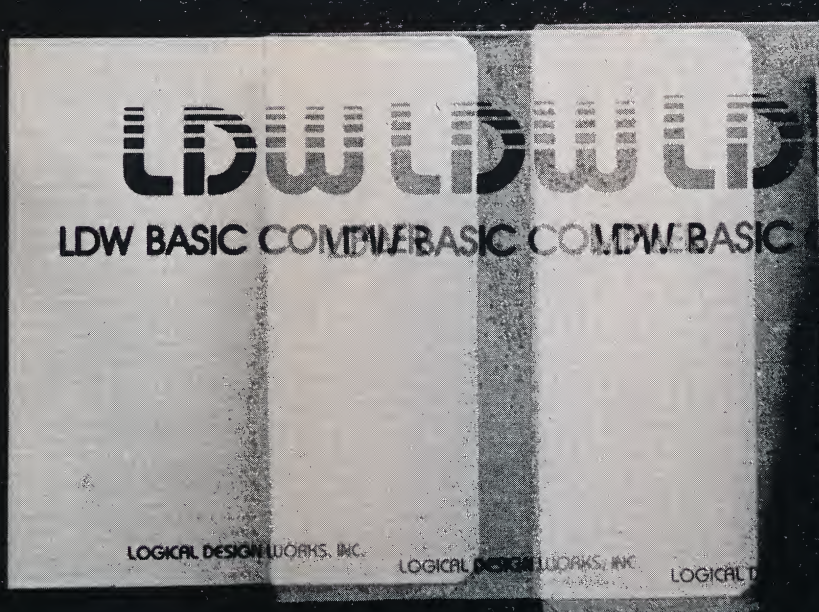
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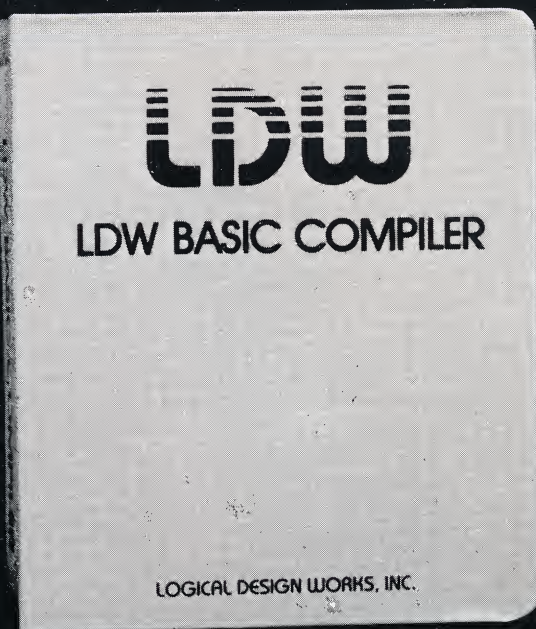
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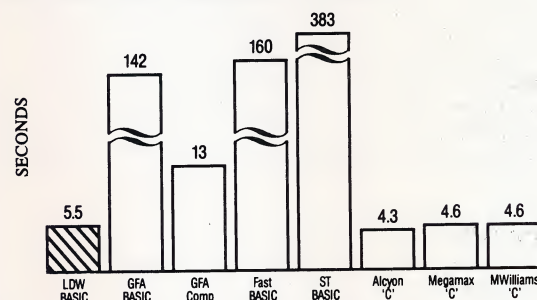
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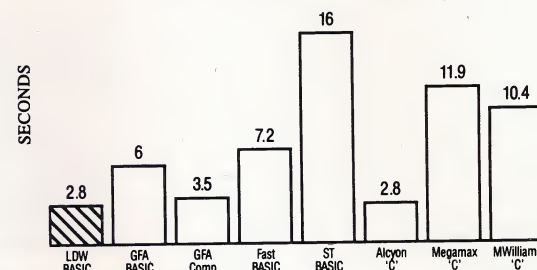
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